

TEAM RGIT RACING

The purpose of TEAM RGIT RACING - student Chapter at Rajiv Gandhi Institute of technology, Mumbai - To enhance the knowledge base of members who are mobility practitioners. To provide to its members access to SAE International programs and services globally enabling them to practice world class standard in productivity and quality.

Its area of focus is Automotive, Mechatronics & Electronics

Racing

SAE International is a global association of more than 128,000 engineers and related technical experts in the aerospace, automotive and commercial-vehicle industries. Our core competencies are life-long learning and voluntary consensus standards development. Aside from its standardization efforts, SAE International also devotes resources to projects and programs in STEM education, professional certification, and collegiate design competitions.

SAEINDIA is membership organization Founded in 1994 and in 2003 SAEINDIA became an Affiliate of SAE International. Today the President of SAEINDIA is Dr. R.K. Malhotra and has a membership count of more than 40,000 members around India.

Website TEAM RGIT RACING: <https://www.teamrgitracing.com/>

Website SAE INTERNATIONAL: <http://www.sae.org/>

Website SAEINDIA: <http://www.saeindia.org/>

Team RGIT Racing's Faculty Advisers: Prof. S. D. Gaikwad

FORMULA BHARAT 2023

Date: 19th January 2023 to 25th January 2023

Location: Kari Motor Speedway, Coimbatore.

Team RGIT Racing is the Formula Student (FSAE) team of MCT's Rajiv Gandhi Institute of Technology, Mumbai (53).

It comprises of 29 like-minded students from the college.

FORMULA BHARAT 2023 was a second participation for Team RGIT Racing in EV Category and fourth year in FORMULA BHARAT Competition. We were Tier 2 team in the competition.

Have a look at how the competition unfolded for Team RGIT Racing.





Day 0 (19th Jan 2023)

We unloaded our vehicle on 18th midnight and took it to our hotel parking so that we can finish our remaining work on Accumulator and can attempt Accumulator Tech Inspection.

We completed all the registration process on 19th around 1.30 pm and attempted Accumulator Tech Inspection

Since we had some work remaining on accumulator cart the officials asked us to complete all the work and then come for Accumulator Tech Inspection.

But they checked our Accumulator visually as we were working on our cart in the inspection area ,They didn't saw any problem regarding isolation and mountings of the Accumulator but our BMS (Battery Management System), Thermistor and Charging of Accumulator has not been checked.

Next day we were going to attempt accumulator inspection and mechanical inspection with complete system



Day 1(20th January 2023)

We cleared Pre Tech Inspection .We were ready to attempt for Mech Inspection but this year they followed a strict sequence of this following Technical Inspection (ATI -> ETI -> MS and so on). Since our ATI was not completed, we couldn't attempt any of the other events on Day 1. But at the end of the day during team briefing, since none of the teams other than kratos attempted MS, they allowed other teams to attempt MS without Accumulator for Day 2 but they will not give the sticker without ATI.

Day 2(21st January 2023)

We attempted for Mech TI and cleared almost everything except few minor changes which we resolved but since our accumulator was in Accumulator Tech Inspection, officials asked us to come again with accumulator.

We also Attempted Accumulator Tech Inspection and Electrical Tech Inspection. Accumulator Tech Inspection is almost cleared with one circuit connection remaining and the electrical Tech Inspection was not completed by judges as the time was over .

So on day 2 we attempted all Tech inspections in which the Accumulator Tech Inspection and Mechanical Tech Inspection will be cleared tomorrow hopefully.



Day 3(22nd January 2023)

We attempted Accumulator inspection in the morning as soon as the inspection zone were opened. As our accumulator design and cell segments were loved by the Tech Inspectors they neglected some of our errors like (they assumed that our current sensors are working, they also neglected the mounting of Arduino they stated that if we mount them on the outer side of the accumulator it would be easy to work with).

They finally gave us a green signal to move our accumulator in the charging area for live charging check.

ATI was almost cleared but we were stuck at live charging check because the charging shutdown circuit (which is in the charging cart) was not working properly.



Day 4 (23rd January 2023)

All the technical inspections were closed at 12 pm . And we didn't clear any of the inspection.

We went for the mech inspection (without accumulator) but they gave few changes and we had to seal the accumulator and mount it (without it, we cannot clear MS). We did the changes and mount the accumulator and went for re inspection but till then the time was over.

As the technical inspection were closed all the team members had their Technical doubts cleared with the Tech Inspectors. Especially all the junior members of the team took a brief explanation of the Tech sheet and what the Inspectors look while Inspection in the Vehicle.



Day 5(24th January 2023)

On the final day, the team witnessed the endurance runs of different teams and took notes for next year. The team got to know the different strategies used by the team during the final event.

We gathered constructive feedbacks from different judges regarding the cost, design and manufacturing of our vehicle and more inputs for the next year's vehicle.

We went to different team pits to discuss their point of approach and gather useful information and ideas for our next year's vehicle. The three teams of the static events Cost Report, Design Report and Business Plan Presentation went to their respected judges for a feedback and improvements for next year.

It was a very knowledgeable and thrilling experience for the team.

We then had team bonding session with Stallion Motorsport, Kratos Racing, SPCE Racing, CRCE Racing, NITK Racing, Raftaar Racing and with many more teams.

A mutual bonding was ensured between the teams and a lot of information and ideas were shared between the teams. We tried encapsulating as many ideas as we can for the next vehicle and for the progression of the team.

FORMULA BHARAT 2023 was a scintillating experience for each and every member of the team and the team as a whole. The importance of timing and teamwork was imbibed upon the team members and a memory to remember for years.



Accomplishments at FORMULA BHARAT 2023

Kari Motor Speedway, Coimbatore



- ✓ Cost Report Rank- 6th
- ✓ Engineering Design Report Rank -11th
- ✓ Concept Goals Management Rank-15th
- ✓ Business Plan Presentation- 5th
- ✓ Overall Statics Rank -9th
- ✓ Total Vehicle weigh without Driver: 209.5kg
- ✓ Overall Rank – 9th out of top 22 teams from Indian Universities.

RESULTS CERTIFICATE

FORMULA BHARAT 2023 - CLASS II

This certificate is being presented to

E13 - Team RGIT Racing Electric
MCT's Rajiv Gandhi Institute Of Technology

Business Plan (75)	70.5	Acceleration (75)	...	OVERALL (1000)	226.7
Engineering Design (150)	74.06	Skidpad (75)	...	RANK	9
Cost & Manufacturing (100)	82.14	Autocross (100)	...	Electric	
OVERALL PENALTIES	0	Endurance (325)	...		
		Efficiency (100)	...		

Location: Kari Motor Speedway, Coimbatore
 Competition dates: January 19 - 24, 2023
 *Online Judging events: October 7, 2022 - January 8, 2023

POWERED BY

HOSTED BY

PLATINUM: **HARMAN AUTOMOTIVE**, **MathWorks**

GOLD: **ZUKEN**, **éxponent**, **BOSCH** (Invented for life), **fabheads**, **Ansys**, **MTS**, **COEXLION**

SILVER: **micelio**, **NUMEROS MOTORS**, **EP000** (Electric Vehicle & Charging Solutions), **ALTIR**

BRONZE PLUS: **COEXLION**

BRONZE: **ALTIR**

BARCODE: FB2023R0051