



# CMR COLLEGE OF ENGINEERING & TECHNOLOGY

An Autonomous Institution with NAAC Accreditation (A Grade)  
\*Approved by AICTE \*Permanently affiliated to JNTUH \*NBA Accreditation  
Kandlakoya (V), Medchal Road, Hyderabad -501401.

CMRCET/PRIN/SAEINIDA COLLEGIATE CLUB OF CMRCET/AY2018-19/01

DATE: 04/07/2018

## OFFICE ORDER

With reference to the office order "CMRCET/PRIN/21/2014, Dated 15<sup>th</sup> April 2014. The SAEINDIA COLLEGIATE CLUB OF CMRCET is constituted with the following members for the academic year 2018-19.

The composition of SAEINDIA COLLEGIATE CLUB OF CMRCET is as follows:

S.no	Member & Designation				
1	Chairman- Major Dr. V A Narayana, Principal CMRCET.				
2	Convener- Dr. P Ravi Kumar, HOD, Department of Mechanical				
3	Faculty Members:				
	S.no	Name of the faculty	Designation	Department	Sign
	1.	Mr. A. Harish	Assistant Professor	Mechanical	A.H
	2.	Mr. B. Naresh Kumar	Assistant Professor	Mechanical	adhy
	3.	Mr. V. Panduranga	Assistant Professor	ECE	V.P
4.	Prof G. Devadasu	HOD	EEE	Dev	
4	Student Members:				
	S.no	Name of the Student	Roll no	Branch	Sign
	1.	Mr. Abhigyan Utsav	15H51A0361	Mechanical	Abhy
	2.	Mr. K. Harshkumar	15H51A0228	Mechanical	Harsh
	3.	Mr. R. Sankarshana	15H51A03A9	Mechanical	Sank
	4.	Mr. M. Swaraj Pal	15H51A0391	Mechanical	Swaraj
	5.	Mr. K. Balakrishna	15H51A0389	Mechanical	K.Balakrishna
	6.	Mr. P. Prithvi Raj	15H51A03A7	Mechanical	Prithvi
7.	Mr. Yash Shah	15H51A03B3	Mechanical	Yash	

Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

Copy Submitted to: (1) The Secretary Garu – For your kind information Pl.

Copy to:

1. IQAC Coordinator
2. Deans
3. Examination Branch
4. All HOD's
5. Administrative Officer
6. Accounts Officer
7. Librarian
8. Training & Placement
9. Concerned Faculty
10. Students Notice Board

**CMRCET/PRIN/SAEINDIA COLLEGIATE CLUB OF CMRCET/AY2018-19/CIR-01**

**Date: 07/07/2018**

**CIRCULAR**

This is to inform all the SAEINDIA COLLEGIATE CLUB OF CMRCET committee members that there will be a meeting on 09<sup>th</sup> July 2018 at 2:30 PM in Department of Mechanical-HOD Cabin.

The Agenda of the meeting:

To Discuss about

1. To plan event to be organized.
2. Event calendar to plan & conduct all events in this Academic year.
3. For scheduling all the related activities without affecting the class/lab work, examination Schedules.
4. To plan to participate in different competitions under SAEINDIA.



**Convener**



**Principal**

**PRINCIPAL**  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
Hyderabad-501401.

Copy Submitted to: (1) The Secretary Garu – For your kind information Pl.

Copy to:

1. IQAC Coordinator
2. Controller of Examinations
3. All HODS
4. Administrative Officer
5. Accounts Officer
6. Concerned Faculty members
7. Student Notice Board



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## SAE COLLEGIATE CLUB

### Strategic Perspective Plan for the Academic Year 2018-19

S. No.	Date of the Event	Name of the Event	Budget for the event (Rs)	Details
1.	22 <sup>nd</sup> January,2019 to 29 <sup>th</sup> January,2019	M-BAJA	3,00,000/-	It's a national level event where students need to design, analyze and fabricate an atv where the best vehicle is awarded after testing them in various conditions and also attain a better position than previous year
2.	22 <sup>nd</sup> January,2019 to 29 <sup>th</sup> January,2019	E-BAJA	6,00,000/-	It's a national level event where students need to design, analyze and fabricate an atv where the best vehicle is awarded after testing them in various conditions and also attain a better position than previous year
3.	13 <sup>th</sup> March 2019 to 16 <sup>th</sup> March 2019	Go-Kart	1,50,000/-	challenges students to conceive, design, fabricate, develop and compete with Karts that are solely developed by students.
4.	22 <sup>nd</sup> August 2019 to 24 <sup>th</sup> August 2019	Tractor Design Challenge	3,00,000/-	Tractor Design Competition tasks the students to think, analyse, design, develop, build, test and present a mini sized tractor. Where the best tractor is awarded after conducting a series of events through the event.



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## SAEINDIA COLLEGIATE CLUB OF CMRCET- Strategy Document

1. SAEINDIA COLLEGIATE CLUB OF CMRCET meeting is conducted at the beginning of each academic year.
2. A brief synopsis is given by the Club members on the importance of Collegiate club.
3. Students are registered in the club.
4. Students are encouraged to actively participate in club activities.
5. SAEINDIA COLLEGIATE CLUB OF CMRCET has given instructions and suggestions to the students about implementation and participation of various events.



**IQAC Coordinator**

Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501401.



**Principal**

**PRINCIPAL**  
CMR COLLEGE OF ENGG. & TECH.  
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Kandlakoya (V), Medchal Road, Hyderabad -501401.

Date: 07/08/2018

To,  
IQAC Coordinator  
CMRCET

Sub: Requesting approval to participate in different Events under SAEINDIA COLLEGIATE CLUB OF CMRCET in the A.Y:2018-19 – Reg.

Respected Sir,

We wanted to bring to your notice SAEINDIA COLLEGIATE CLUB OF CMRCET organizes different events for the students every year, right from the beginning of the Academic year, with prior permission. Herewith I am submitting the proposed list of events we want to participate for the A.Y: 2018-19.

Hence, I request you to kindly permit to organize and participate in the below events.

The Events are scheduled as follows:

1. January : M-BAJA (22/01/2019 to 29/01/2019)
2. January : E-BAJA (22/01/2019 to 29/01/2019)
3. March : Go-Kart (13/03/2019 to 16/03/2019)
4. August : Tractor design challenge (22/08/2019 to 24/08/2019)

Thanking you,

*Recommended*

*Durd*  
Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501 401.

*Prae Kumar*  
Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

*Permitted.*

*[Signature]*  
PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
Hyderabad-501401.



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Date: 01/10/2018

To  
The Principal  
CMRCET

Through: IQAC Coordinator

Sub: Permission to participate in "M-BAJA".

Respected Sir,

As per the approval from the IQAC for the events submitted to conduct in the A.Y: 2018-19, a team from SAEINDIA COLLEGIATE CLUB OF CMRCET will participate in M-BAJA. I request your kind approval in the participation of event.

- Dates of the Events: 22/01/2019 to 29/01/2019
- Name of the Event: M-BAJA.
- Venue: Natrax, Indore, Madhya Pradesh.

Faculty members who are involved in the SAEINDIA COLLEGIATE CLUB OF CMRCET will be taking care of their team and the student members of the team will help the smooth conduction of the event.

Thanking you sir,

*Recommended*  
*and*

Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501 401.

*Prae Kumar*  
Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

*Permitted*

*[Signature]*  
PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
Hyderabad-501401.

## Event report

The 12th edition of Mahindra BAJA SAE India saw a total of 363 teams registering for this event. Out of the 363 teams only 251 teams qualified for the further rounds. The 251 teams were divided as 120 mBAJA (Conventional fuel vehicles), 50 eBAJA (battery operated vehicles) for the Pithampur round and the rest 81 teams for IIT Ropar round.

After reaching Indore we were guided to our hotel. A networking dinner was organized in the evening, where we were given a briefing about the event and also, we got a chance to interact with the event's organizing committee members. We were given the do's and don'ts about the event which was going to take place the next day.

The next day, we started off early in the morning. The event venue was approximately 40 km from our hotel, and it was a good 1 hr. drive. After reaching the venue we could see all the students running across the venue, all excited and pumped up. The race was flagged off by Mr. Bharat Moossadde, EVP & CFO, Auto Sector, M&M Ltd. along with Mr. Umesh Shah, Sr. VP & COO (CVRBU), Gabriel India Ltd., Convener – BAJA SAE India 2019, Mr. Rakesh Sood, MD, Trim India, & Dr K.C. Vora, Sr. Advisor, BAJA SAE India and Senior Deputy Director, ARAI.



Out of the 170 teams, only a total of 107 teams (85 mBAJA and 22 eBAJA) could qualify for the endurance race round. It was a 4 hr long race with the teams which comprised of engineering college students. The four-day event started with basic Static Evaluation round which comprised of design evaluation, cost evaluation and marketing presentation. In the final round, the teams showcased their prototype of a rugged single seat, off-road recreational four-

cost and technology innovation. The objective of the competition to simulate real-world engineering design projects and their related challenges. Each team's goal was to create a safe, easily transported, easily maintained and fun to drive prototype without any direct involvement from professional fabricators.

Our team has secured these ranks in each of these events

**Design evaluation:** In this event the teams are need to explain the panel members regarding their deign procedure and justify their design in different aspects. And later need to answer the questions asked by the judge.



**Position in design evaluation: 42<sup>nd</sup>**

**Cost presentation:** in this event teams need to produce the total cost of the vehicle fabricated including different parts which are manufactured earlier. Every team must produce the bills of each and every part which are evaluated by the judge. The team which fabricates the vehicle in lowest cost gets to win the event.

**Position acquired in cost presentation: 21<sup>st</sup>**

**Sales presentation:** In sales presentation teams are given a task of making 1000 vehicles per year. This event tests the managerial skills of the teams they need to show their factory design and place at which the factory needs to be built. And cost for this all equipment. Then just after the factory design they need to start the vehicle manufacturing and should consider cost for



making each vehicle. Then the vehicle needs to be sold for a reasonable price to the customers. Taking all these aspects into consideration teams need to present a report. The team which gives the best performance in this event is awarded

**Position acquired in sales presentation: 54<sup>th</sup>**



Just after the static events dynamic events start in dynamic events, we have different competitions like braking test, maneuverability test, suspension and traction test, acceleration test, sledge pull test, go green test and endurance.

Our team secured these positions in each respective event as follows

**Brake test:** Team need to start from still point and should stop from 45kmph to 0 within 1.5m teams which pass this test are allowed to participate in other dynamic events.

**Maneuverability test:** In this event vehicles steering is tested where it is made through pass through sharp corners and unsteer able paths. The vehicle which completes this path in shortest time is awarded.

**Maneuverability position: Didn't participated**

**Suspension and traction test:** It is the most difficult event where the vehicle is made to pass through difficult terrains and uneven terrains, logs etc. This event tests the vehicle suspension system, rigidity, strength of the vehicle.

**Position in suspension and traction: Didn't participated**

**Sledge pull:** the vehicle is made to pull up to 1ton weight.

**Go green award:** This event tests the emission level which come out through the exhaust of the vehicle the teams which has the lowest emissions is awarded with go green award.

**Endurance:** This is the final event where all the vehicles are assembled in and made to complete laps through the given time. The team which makes the highest lap is awarded.

**Endurance position: Didn't participated**



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Overall position: 78<sup>th</sup>





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Date: 10/10/2018

To  
The Principal  
CMRCET

Through: IQAC Coordinator

Sub: Permission to participate in "E-BAJA".  
Req. – Reg.

Respected Sir,

As per the approval from the IQAC for the events submitted to conduct in the A.Y: 2018-19, the SAEINDIA COLLEGIATE CLUB OF CMRCET will participate in "E-BAJA" from 22/01/2019. I request your kind approval in the participation of the event.

- Dates of the Events: 22/01/2019 to 29/01/2019
- Name. of the Event: E-BAJA.
- Venue: NATRAX, Indore, Madhya Pradesh.

Faculty members who are involved in the SAEINDIA COLLEGIATE CLUB OF CMRCET will be taking care of their team and the team members of the club will help the smooth conduction of the event.

Thanking you sir,

*Recommended  
and*

Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501 401.

*Prae Kumar*  
Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

*Permitted.*

*[Signature]*  
PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
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## Event report

The 12th edition of Mahindra BAJA SAE India saw a total of 363 teams registering for this event. Out of the 363 teams only 251 teams qualified for the further rounds. The 251 teams were divided as 120 mBAJA (Conventional fuel vehicles), 50 eBAJA (battery operated vehicles) for the Pithampur round and the rest 81 teams for IIT Ropar round.

After reaching Indore we were guided to our hotel. A networking dinner was organized in the evening, where we were given a briefing about the event and also, we got a chance to interact with the event's organizing committee members. We were given the do's and don'ts about the event which was going to take place the next day.

The next day, we started off early in the morning. The event venue was approximately 40 km from our hotel, and it was a good 1 hr. drive. After reaching the venue we could see all the students running across the venue, all excited and pumped up. The race was flagged off by Mr. Bharat Moossadde, EVP & CFO, Auto Sector, M&M Ltd. along with Mr. Umesh Shah, Sr. VP & COO (CVRBU), Gabriel India Ltd., Convener – BAJA SAE India 2019, Mr. Rakesh Sood, MD, Trim India, & Dr K.C. Vora, Sr. Advisor, BAJA SAE India and Senior Deputy Director, ARAI.



Out of the 170 teams, only a total of 107 teams (85 mBAJA and 22 eBAJA) could qualify for the endurance race round. It was a 4 hr long race with the teams which comprised of engineering college students. The four-day event started with basic Static Evaluation round which comprised of design evaluation, cost evaluation and marketing presentation. In the final round, the teams showcased their prototype of a rugged single seat, off-road recreational four-wheel vehicle and were evaluated on various parameters, including engineering design, CAE, cost and technology innovation. The objective of the competition to simulate real-world engineering design projects and their related challenges. Each team's goal was to create a safe, easily transported, easily maintained and fun to drive prototype without any direct involvement from professional fabricators.

Our team has secured these ranks in each of these events

**Design evaluation:** In this event the teams are need to explain the panel members regarding their deign procedure and justify their design in different aspects. And later need to answer the questions asked by the judge.

**Position in design evaluation: 2<sup>nd</sup>**

**Cost presentation:** in this event teams need to produce the total cost of the vehicle fabricated including different parts which are manufactured earlier. Every team must produce the bills of each and every part which are evaluated by the judge. The team which fabricates the vehicle in lowest cost gets to win the event.

**Position acquired in cost presentation: 2<sup>nd</sup>**



**Sales presentation:** In sales presentation teams are given a task of making 1000 vehicles per year. This event tests the managerial skills of the teams they need to show their factory design and place at which the factory needs to be built. And cost for this all equipment. Then just after the factory design they need to start the vehicle manufacturing and should consider cost for making each vehicle. Then the vehicle needs to be sold for a reasonable price to the customers. Taking all these aspects into consideration teams need to present a report. The team which gives the best performance in this event is awarded

**Position acquired in sales presentation: 12<sup>th</sup>**

Just after the static events dynamic events start in dynamic events, we have different competitions like braking test, maneuverability test, suspension and traction test, acceleration test, sledge pull test, go green test and endurance.

Out team secured these positions in each respective event as follows

**Brake test:** Team need to start from still point and should stop from 45kmph to 0 within 1.5m teams which pass this test are allowed to participate in other dynamic events.



**Maneuverability test:** In this event vehicles steering is tested where it is made through pass through sharp corners and unsteer able paths. The vehicle which completes this path in shortest time is awarded.

**Maneuverability position:** Didn't participated

**Suspension and traction test:** It is the most difficult event where the vehicle is made to pass through difficult terrains and uneven terrains, logs etc. This event tests the vehicle suspension system, rigidity, strength of the vehicle.

**Position in suspension and traction:** Didn't participated



**Sledge pull:** the vehicle is made to pull up to 1ton weight.

**Go green award:** This event tests the emission level which come out through the exhaust of the vehicle the teams which has the lowest emissions is awarded with go green award.

**Endurance:** This is the final event where all the vehicles are assembled in and made to complete laps through the given time. The team which makes the highest lap is awarded.

**Endurance position:** 13<sup>th</sup>

**Overall position:** 15<sup>th</sup>





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Kandlakoya (V), Medchal Road, Hyderabad -501401.

Date: 10/08/2018

To  
The Principal  
CMRCET

Through: IQAC Coordinator

Sub: Permission to participate in "Go-Kart".  
Req. – Reg.

Respected Sir,

As per the approval from the IQAC for the events submitted to conduct in the A.Y: 2018-19, the SAEINDIA COLLEGIATE CLUB OF CMRCET will participate in "Go-Kart" from 13/03/2019. I request your kind approval in the participation of the event.

- Dates of the Events: 13/03/2019 to 16/03/2019
- Name. of the Event: Go-Kart
- Venue: ADB Road, Aditya Nagar, Surampalem, Andhra Pradesh 533437

Faculty members who are involved in the SAEINDIA COLLEGIATE CLUB OF CMRCET will be taking care of their team and the team members of the club will help the smooth conduction of the event.

Thanking you sir,

*Recommended*  
*and*

Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501 401.

*P. S. S.*  
Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

*Approved.*

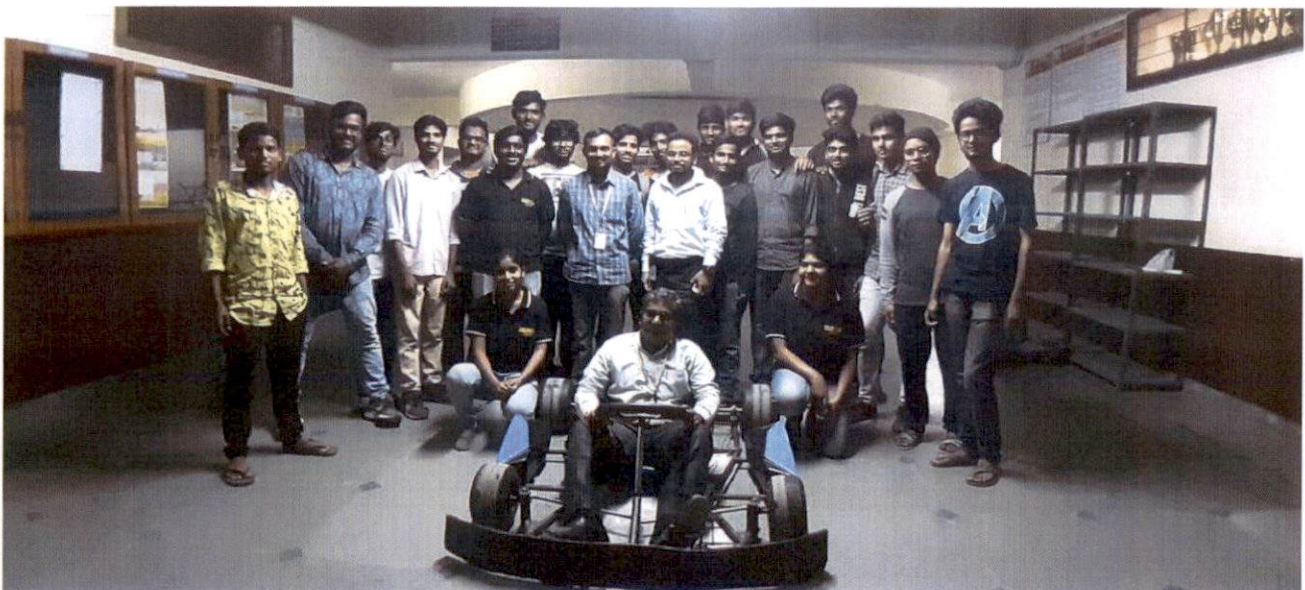
*[Signature]*  
PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
Hyderabad-501401.



## Event report

The motto of Society of Innovative Minds is to expose students to real-world situations, by empowering their minds, and fine tuning their technical skills in such a way that they can tackle any type of scenario. The Society of Innovative Minds offers workshops for students from Engineering Colleges/Universities, to enhance their design, fabrication and mechanical skills, and motivate them to burn some rubber.

The Society of Innovative Minds has, right from its initiation, been looking forward to imparting practical learning, at graduation and under-graduation levels. Siegers Pro Karting Championship is one such initiative by the Society of Innovative Minds, where students from universities all around the globe design and fabricate Go-kart vehicles, to participate in a series of challenging events.



After the grand success of the First and Second seasons of the Pro Karting Championship, the Society of Innovative Minds now launches its Third season.

The event consists of several technical and non-technical rounds, such as Autocross, Sled pull, Acceleration, Costing and Business Plan, as well as a two-hour endurance race.

Brake Test is the qualifier test for all the other dynamic rounds. Teams failing to clear this test will not be allowed to participate in any further dynamic rounds. In Brake Test, the teams will be given 3 attempts. They should clear this test within three attempts.

For the Brake Test, the driver has to accelerate his kart after the whistle and should continuously keep accelerating the vehicle till the end of the acceleration zone. The driver should cover the entire acceleration zone, in maximum 7 seconds, to maintain the speed required for braking. It is advisable to design and validate the brakes at a minimum speed of 35 km/hr, for effective braking.

Whenever front wheels reach the brake line, the driver should apply the brakes (Panic braking). After applying the brakes, rear wheels should lock completely, and the vehicle should slide and stop within the braking zone.



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In Endurance Test, the durability of the kart is tested. All the karts together are allowed into the track, to race for two hours. Teams which make maximum number of laps are considered for the 'Endurance Award'.

Rules and regulations are explained at the event site, in the pre-Endurance Test briefing for drivers. If the driver is found to be driving rashly or not following the rules and regulations explained by the judges, the judges have the right to stop the kart. If the Endurance Test throws up a tie breaker, the winner is selected based on acceleration time.

The team from our college achieved these following positions in the event.

Design: 2<sup>nd</sup>

Cost: 1<sup>st</sup>

endurance: Didn't participated

overall position: 5<sup>th</sup>





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Kandlakoya (V), Medchal Road, Hyderabad -501401.

Date: 18/12/2018

To  
The Principal  
CMRCET

Through: IQAC Coordinator

Sub: Permission to participate in "Tractor Design Challenge".  
Req. – Reg.

Respected Sir,

As per the approval from the IQAC for the events submitted to conduct in the A.Y: 2018-19, the SAEINDIA COLLEGIATE CLUB OF CMRCET will participate in "Tractor Design Challenge" from 22/08/2019. I request your kind approval in participation of the event.

- Dates of the Events: 22/08/2019 to 24/08/2019
- Name. of the Event: Tractor Design Challenge
- Venue: SRM university, SRM Nagar, Kattankulathur - 603 203

Faculty members who are involved in the SAEINDIA COLLEGIATE CLUB OF CMRCET will be taking care of their team and the team members of the club will help the smooth conduction of the event.

Thanking you sir,

*Recommended*  
*[Signature]*

Coordinator  
Internal Quality Assurance Cell  
CMR College of Engineering & Technology  
Kandlakoya (V), Medchal Road,  
Hyderabad - 501 401.

*[Signature]*  
Convener

SAEINDIA COLLEGIATE CLUB OF CMRCET

*Permitted*

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## Event report

SAE India Southern Section organised Tractor Design Competition (TDC) for the first time in India at SRM Institute of Science Technology, Kattankulathur. under Student Design Competition category, targeted to solve many of the real-time challenges. It provides a platform for connecting the bright and prosperous engineering talent available in the country with the real-life challenges.

Through this program, students across India will participate in providing innovative solution towards product design & development challenge. Tractor Design Competition takes students beyond textbook theory by enabling them to design, build and test the performance of tractor and then compete with other students from all over India.

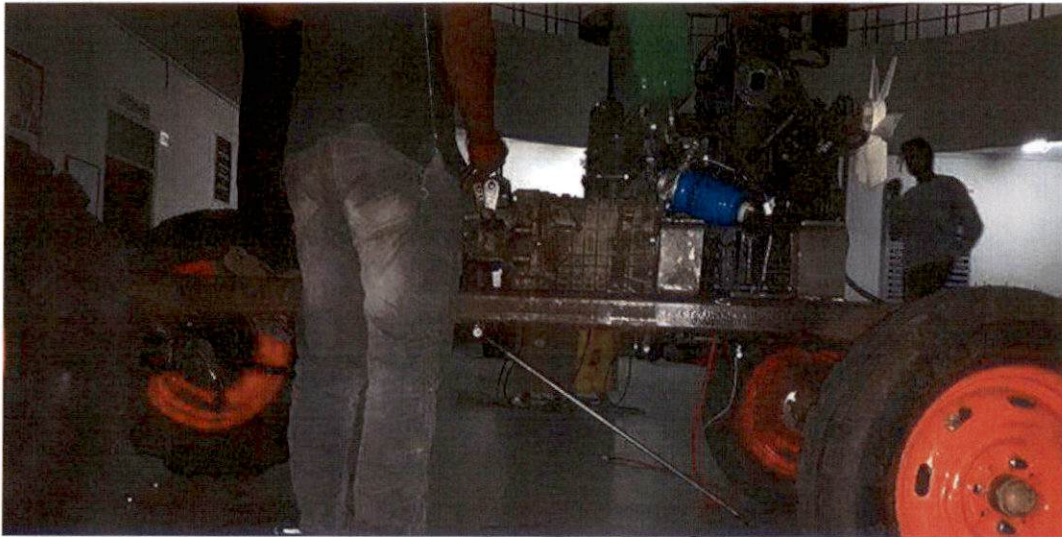
Students are challenged with a hands-on with engineering experience that also requires budgeting, communication, project management and resource management skills. Students also gain valuable exposure with recruiters of leading OEM in the off-highway industry to help them land their first Engineering Job after graduation. Students gain practical experience in various Vehicle system level integration and subsystems like

- Design of Drive systems
- Tractor performance
- Manufacturing process
- Analysis of Tractive forces

Evaluation of Students Design report was done by Industry experts and the vehicle build was inspected, and the feedback was provided for further improvements during the design and development of the team vehicles. Reports were collected from all the teams, including the design report, cost report and build status review and further, it was reviewed by Industry experts. Teams were requested to submit the design report detailing

- Customer requirements
- Conceptual design details
- Design logs
- Analysis reports, FMEA and Test and Development
- Original and Innovative ideas

Cost report– Total Manufacturing cost, BOM wise cost and aggregate based cost. It was a 3-day competition consisting of Static and Dynamic tests, which included Safety as the first and foremost mandatory criteria.



## Day1

Technical Presentation: The teams are expected to provide a Technical Presentation for their designed tractor. The presentation is evaluated based on their design, cost, manufacturing concepts and their application. Technical Inspection was carried out at various stages. The stages are

- Weight Measurement: cleared
- Dimension Measurement: cleared
- Engine testing: cleared
- Brake testing: cleared
- Safety test: cleared



- Noise, Steering and run

Experienced Industry Judges visited all teams about their build readiness and provided the feedback to all team to prepare for the final event.



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## **Day2:**

Manoeuvrability: the teams cleared all the tech inspection allowed for manoeuvrability and was allowed to run via a small circuit.

## **Day3:**

Durability: this was the final event where the tractors were allowed a performance test under various constraints. The Constraints were built at track with Sand bed and Bump track. The Tractor has to run 3 laps of each track, which will ensure that vehicle stability and performance.

Our team secured an overall position of 15<sup>th</sup> in the final event.



# CMR COLLEGE OF ENGINEERING & TECHNOLOGY

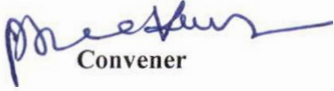
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Kandlakoya (V), Medchal Road, Hyderabad -501401.

CMRCET/PRIN/SAEINDIA COLLEGIATE CLUB OF CMRCET/AY2018-19/CIR-02

Date: 12/09/2019

## CIRCULAR

This is to inform all the SAEINDIA COLLEGIATE CLUB OF CMRCET committee members that there will be a meeting on 14<sup>th</sup> September 2019 at 2:30 PM in Department of Mechanical-HOD Cabin.

  
Convener

  
Principal

Copy Submitted to the Secretary Garu for your kind information Please

PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
Kandlakoya (V), Medchal Road,  
Hyderabad-501401.

Copy to:

1. Deans
2. All the HODs
3. IQAC Coordinator
4. Administrative Officer
5. Accounts Officers
6. Faculty Concerned



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Academic Year: 2018-19

## SAEINDIA COLLEGIATE CLUB OF CMRCET

### MINUTES OF MEETING

Date: 14/09/2019

Time: 2:30 PM

Venue: HOD Cabin, Mech Dept

Chaired By: Major Dr. V A Narayana, Principal, CMR College of Engineering & Technology

Agenda: End of the Academic year summary

#### Minutes of Meeting:

A meeting was conducted by the SAEINDIA COLLEGIATE CLUB OF CMRCET committee to review the events conducted in the Academic Year 2018-19 and to discuss the various events to be conducted for the Academic Year 2019-20.

- The chairman, Major Dr. V A Narayana welcomed all the members.
- Event conducted in the Academic Year 2018-19 were discussed.
- The additional events that were conducted if any and missed out were asked for.
- The events that were part of the agenda but were not conducted were also discussed and the reasons for not being conducted were discussed at length.
- The events that were planned for the next academic year were also discussed.
- Inputs were sought about the other events that can be included as part of the club.

**Resolution 01:** The SAEINDIA COLLEGIATE CLUB OF CMRCET committee members appreciated one another for the successful completion of the events for the academic year on the agenda and were braced up with the list of events for the next academic year.

The meeting concluded with the Chairman thanking the members for their valuable suggestions.

#### Summary of Programmes Conducted during A.Y 2018-19 under "SAEINDIA COLLEGIATE CLUB OF CMRCET committee".

S. No	Name of the Event/Activity	Date	Venue
1	M_BAJA	22/01/2019	NATRAX, Pithampur, Indore
2	E-BAJA	22/01/2019	NATRAX, Pithampur, Indore
3	Go-Kart	13/03/2019	Aditya Engineering College, Surampalem, AP
4	Tractor Design Challenge	22/08/2019	SRM University, Ramapuram, Chennai

#### Summary of Programmes Not Conducted during A.Y 2018-19 under "SAEINDIA COLLEGIATE CLUB OF CMRCET committee".

S. No	Name of the Event	Scheduled Date	Reason
1	Nil		

- I. Summary of Programmes Not Conducted during A.Y 2018-19 under "SAEINDIA COLLEGIATE CLUB OF CMRCET committee". Which were not part of the schedule.

S. No	Name of the Event	Conducted Date	Venue	Reason
1	Nil			


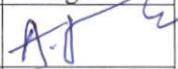





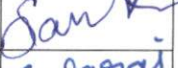

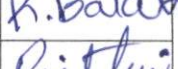
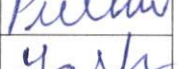
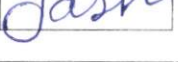




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## Members Present:

S.no	Member & Designation				
1	Chairman- Major Dr. V A Narayana, Principal CMRCET.				
2	Convener- Dr. P Ravi Kumar, HOD, Department of Mechanical 				
3	Faculty Members:				
	S.no	Name of the faculty	Designation	Department	Sign
	1.	Mr. A. Harish	Assistant Professor	Mechanical	
	2.	Mr. B. Naresh Kumar	Assistant Professor	Mechanical	
	3.	Mr. V. Panduranga	Assistant Professor	ECE	
4.	Prof G. Devadasu	HOD	EEE		
4	Student Members:				
	S.no	Name of the Student	Roll no	Branch	Sign
	1.	Mr. Abhigyan Utsav	15H51A0361	Mechanical	
	2.	Mr. K. Harshkumar	15H51A0228	Mechanical	
	3.	Mr. R. Sankarshana	15H51A03A9	Mechanical	
	4.	Mr. M. Swaraj Pal	15H51A0391	Mechanical	
	5.	Mr. K. Balakrishna	15H51A0389	Mechanical	
	6.	Mr. P. Prithvi Raj	15H51A03A7	Mechanical	
7.	Mr. Yash Shah	15H51A03B3	Mechanical		

  
Convener

  
Principal

PRINCIPAL  
CMR COLLEGE OF ENGG. & TECH.  
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Date:28/08/2019

To  
IQAC,  
CMRCET,  
Kandlakoya (V),  
Medchal Road,  
Hyderabad-501401.

Respected sir,

Sub: Annual report of the SAEINDIA COLLEGEIATE CLUB CMRCET for the A.Y 2018-19.

Following is the brief information of programs conducted by the SAEINDIA COLLEGEIATE CLUB CMRCET for the A.Y 2018-19.

## 1.M-BAJA:

The 12th edition of Mahindra BAJA SAE India saw a total of 363 teams registering for this event. Out of the 363 teams only 251 teams qualified for the further rounds. The 251 teams were divided as 120 mBAJA (Conventional fuel vehicles), 50 eBAJA (battery operated vehicles) for the Pithampur round and the rest 81 teams for IIT Ropar round.

After reaching Indore we were guided to our hotel. A networking dinner was organized in the evening, where we were given a briefing about the event and also, we got a chance to interact with the event's organizing committee members. We were given the do's and don'ts about the event which was going to take place the next day.

The next day, we started off early in the morning. The event venue was approximately 40 km from our hotel, and it was a good 1 hr. drive. After reaching the venue we could see all the students running across the venue, all excited and pumped up. The race was flagged off by Mr. Bharat Moossadde, EVP & CFO, Auto Sector, M&M Ltd. along with Mr. Umesh Shah, Sr. VP & COO (CVRBU), Gabriel India Ltd., Convener – BAJA SAE India 2019, Mr. Rakesh Sood, MD, Trim India, & Dr K.C. Vora, Sr. Advisor, BAJA SAE India and Senior Deputy Director, ARAI. Out of the 170 teams, only a total of 107 teams (85 mBAJA and 22 eBAJA) could qualify for the endurance race round. It was a 4-hr long race with the teams which comprised of engineering college students. The four-day event started with basic Static Evaluation round which comprised of design evaluation, cost evaluation and marketing presentation. In the final round, the teams showcased their prototype of a rugged single seat, off-road recreational four-wheel vehicle and were evaluated on various parameters, including engineering design, CAE, cost and technology innovation. The objective of the competition to simulate real-world engineering design projects and their related challenges. Each team's goal was to create a safe, easily transported, easily maintained and fun to drive prototype without any direct involvement from professional fabricators.

Our team has secured these ranks in each of these events

**Design evaluation:** In this event the teams are need to explain the panel members regarding them deign procedure and justify their design in different aspects. And later need to answer the questions asked by the judge.

**Position in design evaluation: 42<sup>nd</sup>**

**Cost presentation:** in this event teams need to produce the total cost of the vehicle fabricated including different parts which are manufactured earlier. Every team must produce the bills of each and every part which are evaluated by the judge. The team which fabricates the vehicle in lowest cost gets to win the event.

**Position acquired in cost presentation: 21<sup>st</sup>**

**Sales presentation:** In sales presentation teams are given a task of making 1000 vehicles per year. This event tests the managerial skills of the teams they need to show their factory design and place at which the factory needs to be built. And cost for this all equipment. Then just after the factory design they need to start the vehicle manufacturing and should consider cost for making each vehicle. Then the vehicle needs to be sold for a reasonable price to the customers. Taking all these aspects into consideration teams need to present a report. The team which gives the best performance in this event is awarded

**Position acquired in sales presentation: 54<sup>th</sup>**

Just after the static events dynamic events start in dynamic events, we have different competitions like braking test, maneuverability test, suspension and traction test, acceleration test, sledge pull test, go green test and endurance.

Our team secured these positions in each respective event as follows

**Brake test:** Team need to start from still point and should stop from 45kmph to 0 within 1.5m teams which pass this test are allowed to participate in other dynamic events.

**Maneuverability test:** In this event vehicles steering is tested where it is made through pass through sharp corners and unsteer able paths. The vehicle which completes this path in shortest time is awarded.

**Maneuverability position: Didn't participated**



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**Suspension and traction test:** It is the most difficult event where the vehicle is made to pass through difficult terrains and uneven terrains, logs etc. This event tests the vehicle suspension system, rigidity, strength of the vehicle.

**Position in suspension and traction: Didn't participated**

**Sledge pull:** the vehicle is made to pull up to 1ton weight.

**Go green award:** This event tests the emission level which come out through the exhaust of the vehicle the teams which has the lowest emissions is awarded with go green award.

**Endurance:** This is the final event where all the vehicles are assembled in and made to complete laps through the given time. The team which makes the highest lap is awarded.

**Endurance position: Didn't participated**

**Overall position: 78<sup>th</sup>**

## 2. E-BAJA:

The 12th edition of Mahindra BAJA SAE India saw a total of 363 teams registering for this event. Out of the 363 teams only 251 teams qualified for the further rounds. The 251 teams were divided as 120 mBAJA (Conventional fuel vehicles), 50 eBAJA (battery operated vehicles) for the Pithampur round and the rest 81 teams for IIT Ropar round.

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Our team has secured these ranks in each of these events

**Design evaluation:** In this event the teams are need to explain the panel members regarding them deign procedure and justify their design in different aspects. And later need to answer the questions asked by the judge.

**Position in design evaluation: 2<sup>nd</sup>**

**Cost presentation:** in this event teams need to produce the total cost of the vehicle fabricated including different parts which are manufactured earlier. Every team must produce the bills of each and every part which are evaluated by the judge. The team which fabricates the vehicle in lowest cost gets to win the event.

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**Position acquired in sales presentation: 12<sup>th</sup>**

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**Maneuverability position: Didn't participated**



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**Go green award:** This event tests the emission level which come out through the exhaust of the vehicle the teams which has the lowest emissions is awarded with go green award.

**Endurance:** This is the final event where all the vehicles are assembled in and made to complete laps through the given time. The team which makes the highest lap is awarded.

**Endurance position: 13<sup>th</sup>**

**Overall position: 15<sup>th</sup>**

### 3. GO-KART

The motto of Society of Innovative Minds is to expose students to real-world situations, by empowering their minds, and fine tuning their technical skills in such a way that they can tackle any type of scenario. The Society of Innovative Minds offers workshops for students from Engineering Colleges/Universities, to enhance their design, fabrication and mechanical skills, and motivate them to burn some rubber.

The Society of Innovative Minds has, right from its initiation, been looking forward to imparting practical learning, at graduation and under-graduation levels. Siegers Pro Karting Championship is one such initiative by the Society of Innovative Minds, where students from universities all around the globe design and fabricate Go-kart vehicles, to participate in a series of challenging events.

After the grand success of the First and Second seasons of the Pro Karting Championship, the Society of Innovative Minds now launches its Third season.

The event consists of several technical and non-technical rounds, such as Autocross, Sled pull, Acceleration, Costing and Business Plan, as well as a two-hour endurance race.

Brake Test is the qualifier test for all the other dynamic rounds. Teams failing to clear this test will not be allowed to participate in any further dynamic rounds. In Brake Test, the teams will be given 3 attempts. They should clear this test within three attempts.

For the Brake Test, the driver has to accelerate his kart after the whistle and should continuously keep accelerating the vehicle till the end of the acceleration zone. The driver should cover the entire acceleration zone, in maximum 7 seconds, to maintain the speed required for braking. It is advisable to design and validate the brakes at a minimum speed of 35 km/hr, for effective braking.

Whenever front wheels reach the brake line, the driver should apply the brakes (Panic braking). After applying the brakes, rear wheels should lock completely, and the vehicle should slide and stop within the braking zone.

In Endurance Test, the durability of the kart is tested. All the karts together are allowed into the track, to race for two hours. Teams which make maximum number of laps are considered for the 'Endurance Award'.

Rules and regulations are explained at the event site, in the pre-Endurance Test briefing for drivers. If the driver is found to be driving rashly or not following the rules and regulations explained by the judges, the judges have the right to stop the kart. If the Endurance Test throws up a tie breaker, the winner is selected based on acceleration time.

The team from our college achieved these following positions in the event.

### 4. TRACTOR DESIGN CHALLENGE:

SAE India Southern Section organised Tractor Design Competition (TDC) for the first time in India at SRM Institute of Science Technology, Kattankulathur. under Student Design Competition category, targeted to solve many of the real-time challenges. It provides a platform for connecting the bright and prosperous engineering talent available in the country with the real-life challenges.

Through this program, students across India will participate in providing innovative solution towards product design & development challenge. Tractor Design Competition takes students beyond textbook theory by enabling them to design, build and test the performance of tractor and then compete with other students from all over India.

Students are challenged with a hands-on with engineering experience that also requires budgeting, communication, project management and resource management skills. Students also gain valuable exposure with recruiters of leading OEM in the off-highway industry to help them land their first Engineering Job after graduation. Students gain practical experience in various Vehicle system level integration and subsystems like

- Design of Drive systems
- Tractor performance
- Manufacturing process
- Analysis of Tractive forces

Evaluation of Students Design report was done by Industry experts and the vehicle build was inspected, and the feedback was provided for further improvements during the design and development of the team vehicles. Reports were collected from all the teams, including the design report, cost report and build status review and further, it was reviewed by Industry experts. Teams were requested to submit the design report detailing



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- Customer requirements
- Conceptual design details
- Design logs
- Analysis reports, FMEA and Test and Development
- Original and Innovative ideas

Cost report– Total Manufacturing cost, BOM wise cost and aggregate based cost. It was a 3-day competition consisting of Static and Dynamic tests, which included Safety as the first and foremost mandatory criteria.

## **Day1**

Technical Presentation: The teams are expected to provide a Technical Presentation for their designed tractor. The presentation is evaluated based on their design, cost, manufacturing concepts and their application. Technical Inspection was carried out at various stages. The stages are

- Weight Measurement: cleared
- Dimension Measurement: cleared
- Engine testing: cleared
- Brake testing: cleared
- Safety test: cleared
- Noise, Steering and run

Experienced Industry Judges visited all teams about their build readiness and provided the feedback to all team to prepare for the final event.

## **Day2:**

Maneuvrability: the teams cleared all the tech inspection allowed for manoeuvrability and was allowed to run via a small circuit.

## **Day3:**

Durability: this was the final event where the tractors were allowed a performance test under various constraints. The Constraints were built at track with Sand bed and Bump track. The Tractor has to run 3 laps of each track, which will ensure that vehicle stability and performance.

Our team secured an overall position of 15<sup>th</sup> in the final event.

  
**CONVENER**