AMALTHEA '19
19 - 20 OCTOBER

PRIZE MONEY
₹ 50000

Do you love F1 racing? Always want to experience the noise of the acceleration of IC engines? Want to show your handling skills? So this is the place for you. Build your beast to compete against the opponents and win huge prize money

Amalthea'19 gives you a chance to come and show your skills. We invite all the enthused champs out there.

TEAM SPECIFICATION

A team may consist of a maximum of 5 participants. Participants in a team can be from different educational institutes, hobby clubs or any other organization. (Passout/ College graduates can also participate.)

TASK

Make a wireless remote-controlled car, powered only by an IC engine, which will have to race against other opponents on an off-road dirt track with many obstacles.

COMPETITION RULES

1. The racing event will be divided into different domains like Drag Racing, Circuit Racing, etc.

2. There can be a maximum of only one member (the marshal) of a team on the track at a time.

3. In the scenario where the car tumbles, halts or goes off the arena, only the marshal for that round is allowed to lift it and place it at the nearest checkpoint behind that point.

4. Until and unless there is a need to touch the vehicle as stated above, they will have to be fully remote controlled throughout the race.

5. Every time the machine needs to be lifted by the marshal, a time penalty will be imposed. There will also be a time-penalty for reverse gearing (all the details regarding the time-penalties will be disclosed on the day of the event).

6. Any vehicle is not allowed to leave any disintegrated part on the race track amidst the race. In case this happens, the team will be disqualified.

7. The members of a team are also not allowed to damage the opponent's vehicle deliberately. If found guilty, the accused team will be disqualified.

8. Participants are advised to have multi-channel radio controllers to prevent frequency clashes. Organizers will not be responsible for any interference in frequencies.

9. Any driver can drive anyone's car or share the car with other participants, with the approval of the organizers and the people involved.

10. Any participant can use any engine or parts from any other car or participant, during, before and after the event/race (ARE Hobbies will be providing technical support, by providing spare parts and helping out in other technical issues, to all the participants on a chargeable basis).

11. Teams for a round will be randomly selected. If you are racing against your own team,

you will have to follow the schedule. Trying to manipulate the organizer for your gain can result in disqualification.

12. Blocking the competitor's car accidentally will result in a re-race from the previous checkpoints crossed. The accused team may be disqualified after a review.

13. Other rules related to the event will be disclosed on the day of the event itself.

14. Teams creating issues or not complying with the DRIFT rules and regulations will be disqualified immediately.

TRACK

1. The track will be an off-road dirt track with sharp turns and big jumps that will be designed in a way to test both the speed and control of the machine.

2. Most parts of the track will be made up of soil; however, at few places, pebble-like materials and bumps may be used to create obstacles.

3. The track will have checkpoints at regular intervals.

4. A car successfully completes a lap when it reaches the starting/finishing point.

5. A race will have multiple cars running on the track at the same time.

6. A pedestal will be provided for drivers to control their vehicles. Drivers are prohibited from running around the track along with the car. The track may contain blind spots that are not visible to the driver.

7. The design of the track will be disclosed on the day of the event itself.

MACHINE SPECIFICATION

1. Cars must be powered by an internal combustion engine. Electric or solar-powered vehicles are not permitted.

2. The teams must design a purely wireless remote-controlled machine.

3. The machine should fit in a box of dimensions **700mm x 500mm x 600mm** throughout the race, excluding the external device which is used to control the machine.

4. The machine parts can be roughly classified into structural and functional parts:

> **Functional parts** – Readymade versions of gears, differential gear, engine, springs, shock absorbers, servo motors (non-propulsion purposes only), batteries and wheels can be used.
>
> **Structural Parts** – Chassis, steering mechanism, shock towers and suspension (excluding the upper suspension arm, suspension spring and shock absorbers) have to be built by the participants themselves.

5. Judging for the same will be strict. After a thorough inspection, machines which seem dangerous will be disqualified. This decision of the judges and the organizers will be ultimate

6. Minimum thickness of tyres should be **3 inches**. Selection of a tyre with right width will ensure better performance in dirt tracks.

7. Brake Mechanism: It is compulsory to incorporate a braking mechanism in the car. Participants have to fabricate the brake pad as a part of the braking mechanism. Any other part used in the braking mechanism (including the brake disk) can be readymade. Fabrication is not compulsory.

8. Wheel Hub: Any part rigidly attached to the wheel hub will be considered as a part of it and hence can be readymade. An example here is that of the ball stud.

9. Steering Mechanism: Any part which is connected to the steering rod rigidly, i.e. has no degrees of freedom with respect to steering rod
(example: Heim joint ***https://en.wikipedia.org/wiki/Rod_end_bearing***) will be considered as a part of the steering rod.

10. Suspension Mechanism: Any part rigidly connected to suspension arms or one with no degrees of freedom with respect to suspension arm will be considered as its part.

For example, both the Heim joint for the upper suspension arm and the stud rigidly connected to the wheel hub can be bought from the market.

11. If there are parts used in the concerned joint which are neither rigidly connected with suspension or the hub, steering system or hub; they can be taken readymade from the market. Fabrication is not compulsory.

12. The maximum allowed capacity of IC engine to be used is **4.6 cc** (i.e. participants can also use to **2.5 cc**, **3 cc**, **3.5 cc** or any other IC engine lower in capacity).

13. The electric voltage anywhere in the machine should not exceed 12V at any point in time.

Ready- to-run kits are acceptable, however, extra points will be awarded for customization,fabrication and performance enhancement as per technical team's decision. The points system will be disclosed on the day itself.

ABSTRACT SUBMISSION

Teams have to send the abstract of their car on
Email id: ***shivanshu.sharma@iitgn.ac.in*** with the following information:

1. Name of the team.
2. Name of the captain.
3. Number of members in the team.
4. Length of the car.
5. Width of the car.
6. The diameter of the tyres.
7. Height of the car from top to ground.
8. Ground clearance.
9. Number of fabrication and their description.
10. Pictures of the car are compulsory and video if possible.

Note: The abstract will not be judged and is intended to give us an idea about the effort put in by the participants.

THE ORGANIZERS RESERVE THE RIGHT TO CHANGE ANY OF THE ABOVE RULES AS THEY DEEM FIT. YOU ARE ADVISED TO CHECK THE WEBSITE FOR UPDATES REGULARLY.

CONTACT

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