

EPITOME'26

THE ANNUAL TECH-FEST



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SCAN TO REGISTER!!





Foreword

Welcome to Machspeed Madness 2026

This Rulebook has been formulated by the Machspeed Madness committee for the 2026 season. It is a detailed compendium, that entails all specifications and procedures participants must follow. In the best interest of contenders and the event itself, we have strived to develop a set of guidelines bereft of ambiguity. It is also to be noted that all vehicles are to participate at their own risk and the Machspeed Madness committee will not be responsible for any damage incurred to the vehicles during the event.

Machspeed Madness Program Objective

Machspeed Madness is an engineering design competition for engineering aspirants. The objective of the competition is to simulate real-world engineering design projects and their related challenges. The participants must function as a team to design, engineer, build, test, promote and compete with a vehicle within the limits of the rules.





Rules & Regulations

Rules Authority

The rules may change any time, even without explicit notification to teams. However, the document uploaded here is to be followed as the latest problem statement for all the rules and design specifications. Any change can be observed in the name of the document which will contain a higher version (v2.0, say) if updated. The teams acknowledge that they have the responsibility to read, understand and abide by the rules and SAE.GSV reserves the right to prevent any team from competing at any time for any reason (including but not limited to the reasons specified elsewhere in this document). However, we shall inform all the registrants in case an updated version comes up (all the registrant till date of revision). In case of any queries, participants are encouraged to contact the Machspped Madness Organizing Committee.



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Loopholes

A set of rules cannot be comprehensive enough to cover all possible questions about the vehicle design parameters or the conduct of the competition. Please keep in mind that safety remains paramount during MACHSPEED MADNESS, so any perceived loopholes should be resolved in the direction of increased safety of the competition.

Preliminary Review

If a team has a question about scoring, judging, policies, or any official policies it must be brought to the attention of the Organizing Committee of Machspeed Madness'26 for an informal preliminary review.





DESIGN SPECIFICATIONS

RC Car Size Comparison Table by different scale :

Scale	Approx. Length	Approx. Width	Approx. Height	Approx. Weight
1:16	25-30 cm	18-20 cm	10-12 cm	1 - 1.5 kg
1:12	32-36 cm	20-23 cm	12-15 cm	1.5 - 2.5 kg
1:10	40-45 cm	23-30 cm	15-20 cm	2 - 4 kg
1:8	48-60 cm	30-40 cm	18-25 cm	3.5 - 6 kg
1:5	70-100 cm	45-55 cm	25-35 cm	10 - 15+ kg

***Failure to comply with the dimension ranges specified in the table above will result in deduction of 20% marks from round 1, with an allowable error of $\pm 5\%$.



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General Specifications:

- i. The car's dimensions should be in range of [1/12 scale, 1/8 scale] of offroad car.
- ii. Min ground Clearance should have 1.5 inch.
- iii. The car must be controlled manually. Teams can use wireless control mechanisms. Since the participants use a wireless mechanism, they minimum range of 50 metres. Even RF module communication is have to use either a dual frequency remote, Bluetooth, or Wi-Fi with a allowed. (Ensure that your RC car complies with any local regulations or laws regarding radio frequencies, noise levels, and other factors).
- iv. The dimensions of the remote are not included in the size constraint of the car. The car may have an onboard power supply or remote power supply in any case.
- v. The chassis must be self-designed and rigid. The design should be included in the report/presentation.
- vi. The electronic component should be adequately protected to prevent damage from water or mud.
- vii. The mechanism used should be such that only one person will control the car. Please meet all of the above specifications to avoid immediate disqualification.



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- viii. Wheel diameter should be in the range of 75mm (minimum) to 150 mm (maximum).
- ix. ESC (Electronic speed control) is permitted.
- x. All the details of the parts used should be produced in the report, template for the report will be provide before round 1.
- xi. A minimum of 1 and a maximum of 4 traction motors (Rear wheel drive/ Four-wheel drive) can be used on the RC car and max of 2 actuators [servo].
- xii. Considering the various obstacles, the RC car should have the proper suspension and Ground clearance should be maintained.

*****There is a budget constraint for the participating teams. Any team making the car should not exceed the expense of Rs. 15,000/-.**





Mobility

Each vehicle must have easily visible and controlled mobility.

Vehicle Control

- All controls of the vehicle should be done remotely with all the power supply on board.
- It is the responsibility of the participants to ensure that their control system equipment does not interfere with the systems of any other vehicle.
- The controller must be able to remotely disable all the functions of the vehicle at any time.
- The transmitters and receivers should be able to connect between barriers such as metal sheets, wood, etc. Any reception problems faced by the teams will not be the responsibility of the event managers.
- Any remote-control system purchased from the the market may be used as long as it satisfies the above mentioned criteria. Any ambiguity arising in the case of controls system will be finalized and approved by the event managers.





Battery & Power

- The participants should use an electric power supply i.e. the power source should be on the car or kept outside the arena. The power source must be non-polluting and must satisfy the safety constraints determined by the organizers.
- In the case of an electric power supply, the voltage between any two points should be less than or equal to 19V DC at all times during the run. The battery capacity should be at least 2000mAh.
- AC power supply will not be provided and cannot be used in the competition.
- Any failure to meet the safety standards will result in immediate disqualification.
- Participants should protect the battery terminals from a direct short which may cause a battery to catch fire.
- Change of battery will be allowed during the match but penalty will be there.



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Team Specification

- Any team can participate in Machspeed Madness'26 conducted by SAE.GSV, without any restrictions other than the fact that the team representative/leader must have an active SAEINDIA Membership.
- A team may consist of a minimum of 3 and maximum of 6 participants. These participants can be from the same or different branches and years.
- Each team as well as their vehicle should have a unique name. The vehicle should also have flag with the Team name and (or) logo.
- **Team Representative:** Each team must specify their team representative (leader) at the time of registration on website.

Criteria for Victory

A team will declared winner if:

- Their vehicle will complete the circuit race in Round 2.



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- The team will be having maximum total points after all the rounds.

If a team is found violating a tournament rule, or is not reporting for a fight even after 3 calls which include a final call (at an even interval of 5 minutes each-total 15 minutes wait time), the team will be disqualified.

Match Procedures

Round 0

- In the first round, participants are required to deliver a concept and submit a report as part of the assessment.
- The report format will be provided to the teams.
- The report should contain approximate weight, theoretical dimensions, detailed 2D & 3D drawing of car, wheel specs., ground clearance, suspension system, steering mechanism, battery capacity, drivetrain configuration, etc.
- This round will carry 15% of the total points.



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Round 1

- The relative scoring will be made by the net performance (speed, time) for the completion of test, viz, the best of two.
- Only one team member is allowed to handle the car. No other team member is allowed to control car at the time of test
- There will be two attempts in this round.
- The vehicle will qualify if it clears the test before Round 3; however, penalties will be imposed for each re-test.
- The vehicle will be allowed to swap battery or any other part only after successful completion of each attempt.
- Evaluation will be done on 30% of total.

*****The Track for this round will be made available for testing and practicing 2 hours prior to ROUND 1.**



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Round 2

- This round will be a circuital race.
- Only one team member is allowed to handle the car. No other team member is allowed to enter the arena.
- The track will be an off-road dirt track with jumps and obstacles.
- Multiple vehicles will race, in some or all of the rounds, on a single lane track at a time.
- A lap of the track is completed when the machine comes back to the start-finish line.
- Despite organizer's efforts to keep the track's quality intact, the track is subjected to undergo wear and tear as cars run over it. The car is expected to be able to perform on such a weakened track as well.
- The team will receive their 60% marks in this round.

*****The Track for this round will be made available for testing and practicing 2 hours prior to ROUND 2.**



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Submission of Abstract

- Participants have to submit a portfolio of their vehicle, consisting of a written report and a video of the working model before the competition. The teams can submit their team logo if any. **The written and video abstract should be submitted on or before 11th March 2026 via mail to sae@gsv.ac.in.**
- The teams are required to submit the abstract online, emailing the soft copy in pdf format along with the video.
- The teams representatives are required to use their college id while submitting the abstract and video.

Details regarding the abstract:

Written Report:

- A written report format will be given to the teams 2-3 days before. The teams are required to submit the report in the given format.



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- The 2D or 3D design is also needed to be submitted in the report.
- Only submissions via mail will be considered. In case of multiple submissions, only the final submission will be used for judging purposes.
- There is no need of hardcopy of the report.

Video abstract

- The video should be at least 30 seconds long with unedited clips showing the vehicle's performance to the fullest.
- Participants are not required to explain any mechanisms in the video.
- The portfolios are meant to assess your vehicle capabilities as well as the effort put in by the participants. Even if the participants are not able to meet the requirements asked in the portfolio or if the construction procedure is yet to be completed, please still send the portfolios.





Safety rules

Handling safety

- Any sharp edges/corners on the vehicle that could cause injury must have a removable protective cover that cannot be accidentally knocked off.
- Special care should be taken to protect the onboard batteries and connections.
- If you have a vehicle design that does not fit as per the guidelines (even having some elements that are not mentioned as allowed/prohibited in the rulebook), or is somehow ambiguous, contact the organizers and ask for clarifications at the earliest.

Judging Criteria

Points will be given on the basis of team performance in different rounds.

- Round 0 : On the basis of report and abstract submitted.
- Round 1 : On the basis of time taken to clear the test and no. of penalties.



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- Round 2 : The vehicle which will reach the finish line first will gather maximum points .

Prize Distribution

The prize distribution for Machspped Madness'26 will be as follows:

- Prize Money and Certificate of Excellence for Top 3 teams.
- Trophy and Certificate of Achievement for Team with Most Innovative Vehicle and Team with the Most Aesthetic Vehicle.
- Certificate of Participation for all the participants.



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