

ROBORACE 2026

RC-CONTROLLED OBSTACLE RACE — OFFICIAL RULES & REGULATIONS



1. Event Overview

RoboRace is a manually-controlled (RC) robot obstacle race organized by RAIoT Labs, the robotics and IoT research lab of Amity University Rajasthan. Teams design and drive a wired or wireless remote-controlled robot through a timed obstacle course. The fastest clean run wins — precision, build quality, and driving skill all matter.

2. Eligibility & Team Composition

1. Open to all currently enrolled students (any year, any branch), from Amity University Rajasthan and other invited institutions.
2. Team size: minimum 2, maximum 4 members per team.
3. One team = one robot = one registration entry. Cross-team member overlap is not permitted.
4. Each team must designate one driver per heat; drivers may be swapped between heats but not mid-run.

3. Robot Specifications

All robots are inspected before the first heat. Robots that fail inspection get one 10-minute window to fix and re-submit; repeated failure results in disqualification from that round.

Parameter	Limit / Requirement
Max dimensions	30 cm (L) × 30 cm (W) × 25 cm (H) at start
Max weight	3 kg, including battery
Control	RC only — wired tether or wireless (RF/Bluetooth/Wi-Fi). No autonomous navigation, no pre-programmed paths, no onboard camera-based auto-pilot.
Power source	Battery-powered only (LiPo/Li-ion/NiMH). Max 24 V nominal pack voltage.
Prohibited	Sharp/protruding parts, projectiles, flammable or hazardous material, lasers above Class 1, glass components
Wireless frequency	2.4 GHz band recommended to avoid interference; teams sharing a track run staggered to prevent RC signal clash

4. Track & Obstacles

The course layout is revealed on event day and is identical for every team in a given heat (or run in immediate succession on an unmodified track). Expect a mix of the following:

- Straight speed section
- Chicane / zig-zag turns
- Ramp or incline

- Narrow gate / gap crossing
- Rough terrain patch (gravel, uneven surface)
- At least one mandatory checkpoint gate that must be passed through, not around

5. Race Format

1. Qualifying heats: every team gets 2 timed runs; the better of the two counts.
2. Top teams (based on entries, typically top 8) advance to a knockout / head-to-head final on a dual-lane track.
3. Each run has a maximum time cap of 3 minutes; runs not finished within the cap are recorded as DNF for that attempt.
4. Timing starts on the first deliberate movement after the marshal's signal and stops when the robot fully crosses the finish line.

6. Scoring & Penalties

Infraction	Penalty
Missed obstacle / skipped checkpoint	+15 seconds added to run time
Robot fully leaves the track boundary	+10 seconds, robot repositioned by marshal at exit point
Manual reset requested by team	+20 seconds per reset (max 2 resets/run)
Exceeding size/weight limit at inspection	Disqualification until corrected and re-inspected
Unsportsmanlike conduct / tampering with another team's robot	Immediate disqualification from the event

7. Safety Regulations

- Only the designated driver operates the controller during a run; no physical contact with the robot once the run starts, except during a declared reset.
- Batteries must be securely mounted and insulated; loose or exposed wiring will fail inspection.
- Spectators and other teams must stay behind the marked safety line at all times.
- Any robot judged to pose a safety risk (fire, sparking, uncontrolled motion) will be stopped immediately by marshals, no exceptions.

8. Registration & Reporting

- Registration closes 48 hours before the event; on-spot registration is not guaranteed and is subject to slot availability.
- Teams must report for inspection at least 30 minutes before their scheduled heat.
- A valid Amity ID card (or institution ID for external teams) is mandatory at check-in.

9. Code of Conduct & Judges' Decision

All participants are expected to maintain sportsmanship and follow marshal instructions at all times. The organizing committee (RAIoT Labs) reserves the right to modify the track, schedule, or rules in the interest of fairness or safety, with reasonable prior notice where possible. The decision of the judges and race marshals on timing, penalties, and disqualifications is final and binding.

10. Contact

For queries regarding registration, robot specifications, or the event schedule, reach out to the RAIoT Labs coordination team at Amity University Rajasthan.