



# TECHFIESTA

BUILDING COOL

11-13 OCTOBER, 2025





# ROBO RACE

## INSTRUCTIONS MANUAL





## DATE & TIMING

- MONDAY, 13 OCTOBER 2025
- 12 PM ONWARDS



## VENUE

- AISSMS INSTITUTE OF INFORMATION TECHNOLOGY
- KENNEDY ROAD, NEAR R.T.O., PUNE – 411 001, MAHARASHTRA, INDIA



## CONTACT

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# OVERVIEW

**Race against time as your robot conquers a challenging track filled with twists, turns, and obstacles! The Robo Race tests your robot's speed, stability, and control while demanding sharp decision-making under pressure. The fastest bot to complete the track with the fewest penalties claims the podium.**

## **1. Match Format:**

- Each team is allowed 1 practice run (trial) and 1 official timed run.
- The run will begin from the start line and end at the finish line.
- The track may include straight paths, curves, slopes, bridges, zig-zag paths, ramps, speed breakers, rough surfaces, and other minor obstacles.
- Checkpoints will be placed at key intervals on the track.
- If a bot falls off the track or gets tangled, it must be restarted from the last successfully crossed checkpoint (not the fall/tangle point).



- Only one player is allowed to handle their robot on track.
- Only one player is allowed to control the bot.
- Replacement or repair during an official run is not permitted.
- Track modifications are strictly prohibited.

## **2. Scoring System:**

- Each team's performance will be judged based on total completion time.
- The base score is the official recorded time to finish the track.
- Penalties (in seconds) will be added for fouls (see below).
- If a bot cannot complete the track, only the last crossed checkpoint will be considered, with maximum penalties applied.
- The team with the fastest adjusted time (after penalties) will be declared the winner.

## **3. Foul and penalties System:**

- Touching the bot during a run: +5 seconds penalty per touch.
- Skipping a checkpoint: +10 seconds penalty.
- Restart after falling/tangling: +10 seconds penalty per restart (from last checkpoint).
- Going off-track without falling: +10 seconds penalty.
- Track tangle (wired bots): Teams will get up to 1 minute timeout to untangle. Timer will pause during this period.
- Malicious damage to track or equipment: Immediate disqualification.



## **4. Bot Specifications:**

### **1. Dimensions & Weight**

- Maximum Dimensions: 30 cm × 30 cm × 30 cm (L × W × H), with a tolerance of  $\pm 5\%$ .
- Maximum Weight: 5.0kg (including batteries).

### **2. Power Supply**

- Internal Power Source Only – Robots must carry their own power supply.
- Maximum Voltage: 12V DC.
- Battery Types Allowed: Li-ion / Li-Po / NiMH / Lead-acid (must be properly insulated and secured).
- External power supply (wired connection to an external source) is strictly prohibited.

### **3. Control System**

- Robots may be wired or wireless.
- For wired bots, wires must be flexible and properly insulated.
- Wires must remain slack during the race to avoid entanglement with obstacles.
- Wireless bots must avoid frequency interference with other teams (use of Bluetooth, RF modules, Wi-Fi, or custom controllers allowed).



#### **4. Drive & Mobility**

- Locomotion may be wheeled or tracked (no flying or hopping mechanisms).
- Robots must not exceed a maximum speed that compromises safety or damages the track.
- Mechanisms must allow the bot to climb ramps, handle curves, and move smoothly over different surfaces (wood, sand, PVC, cardboard).

#### **5. Construction Rules**

- Robots must be student-built; use of ready-made toy cars or fully pre-assembled commercial bots is not allowed.
- Kits and standard components (motors, wheels, sensors, controllers) may be used, but the final design should be an original student build.
- Robots must not damage or scratch the track.

#### **6. Safety Requirements**

- All electrical connections must be secure and insulated.
- Sharp edges or protrusions that may cause injury are not allowed.
- Robot must not emit fire, water, oil, or any harmful substances.
- Judges may disqualify bots deemed unsafe.



## **5. Registration Condition:**

- Participants may register in teams of 1 or 2.
- Teams may register with or without a bot.
- Teams without a bot may participate in matchday using bots provided by organizers.

## **6. Winners & Certificate Conditions**

- Winner: Team with the fastest adjusted time after penalties.
- Runner-up: Second-best adjusted time.
- Certificates will be awarded to:
  - Winners and Runners-up
  - All participants who successfully complete the run

## **7. Safety & Fair Play Rules**

- Bots must operate safely without harming participants, spectators, or property.
- Maximum power supply allowed: 12V DC.
- Use of ready-made toy cars is prohibited – bots must be student-built.
- Bots should not damage the track surface.
- Judges and organizers reserve the right to inspect bots before and during the event.
- Any unsafe or unfair practices (tampering, external interference, or foul play) will result in disqualification.
- The decision of judges will be final and binding.



## **8. For more information**

- Website: <https://www.ioittenet.com/>
- Instagram: [https://www.instagram.com/ioit\\_tenet/](https://www.instagram.com/ioit_tenet/)