

ROBO RACE

"Official Rules and Guidelines"

Note: Failure to comply with any of the following rules will result in disqualification, and the team will be deemed ineligible to participate in the competition

CHALLENGES:

The challenge is to build your own wired/wireless (It can be Bluetooth/radio) bot within the specified dimensions in order to finish the track by crossing all the hurdles in the least possible time.

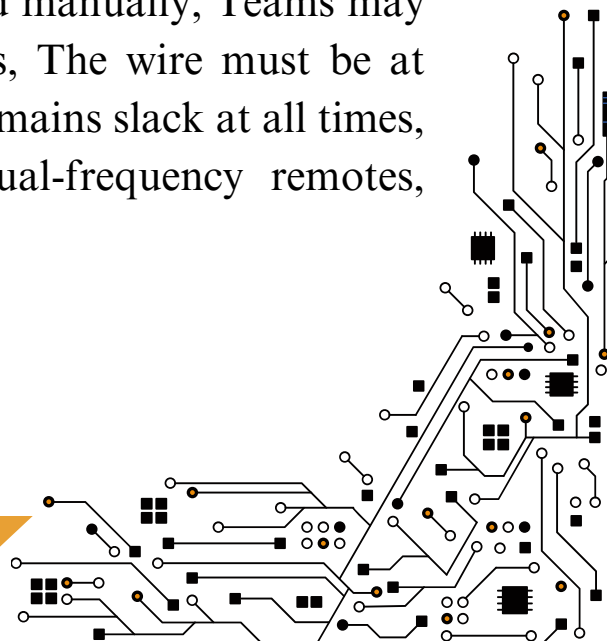
Bot Specifications:

Technical Requirements: Participants must adhere to the following specifications when designing their bot:

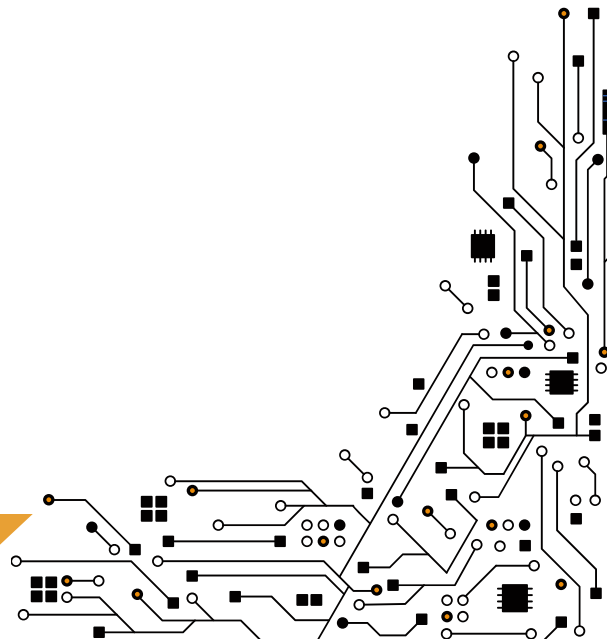
- **Dimensions:** The robot's dimensions, including tires, must not exceed 300 mm (length) x 300 mm (width) x 300 mm (height). An error margin of $\pm 5\%$ is permitted.

The bot may extend its dimensions after the competition run begins.

- **Control Mechanism:** The bot must be controlled manually, Teams may utilize either wired or wireless control systems, The wire must be at least 2 meters long for wired bots to ensure it remains slack at all times, If using wireless control, options include dual-frequency remotes, Bluetooth, or WiFi.

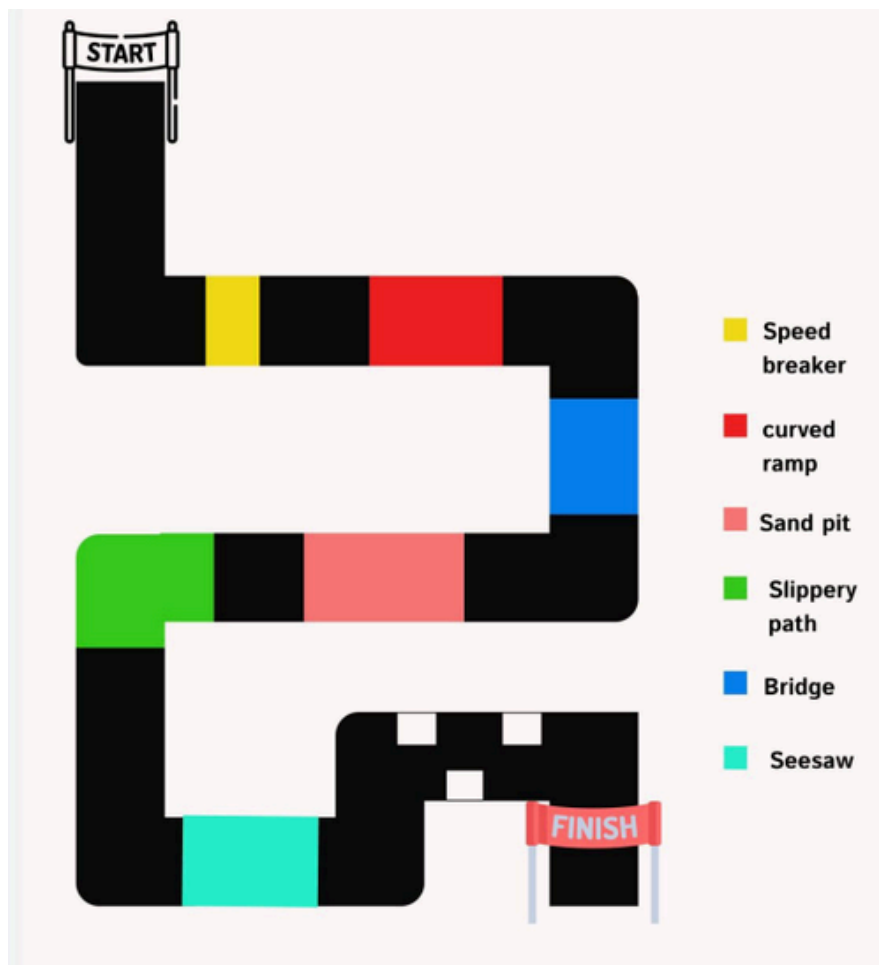


- **Control Mechanism:** The bot must be controlled manually, Teams may utilize either wired or wireless control systems. The wire must be at least 2 meters long for wired bots to ensure it remains slack at all times. If using wireless control, options include dual-frequency remotes, Bluetooth, or WiFi.
- **Power Supply:** Participants must use an onboard power supply, which can be electric or nonelectric. The power source must be self-contained within the bot and nonpolluting, adhering to safety constraints established by the organizers, If using an electric power supply, the voltage between any two points must not exceed 24V DC at all times during the run, AC power supply will not be provided and cannot be used in the competition.
- **Component Restrictions:** Participants may not use pre-made Lego components or ready-made mechanisms or chases. However, ready-made gear assemblies are allowed.
- **Control Limitation:** Only one person is permitted to control the bot during operation.



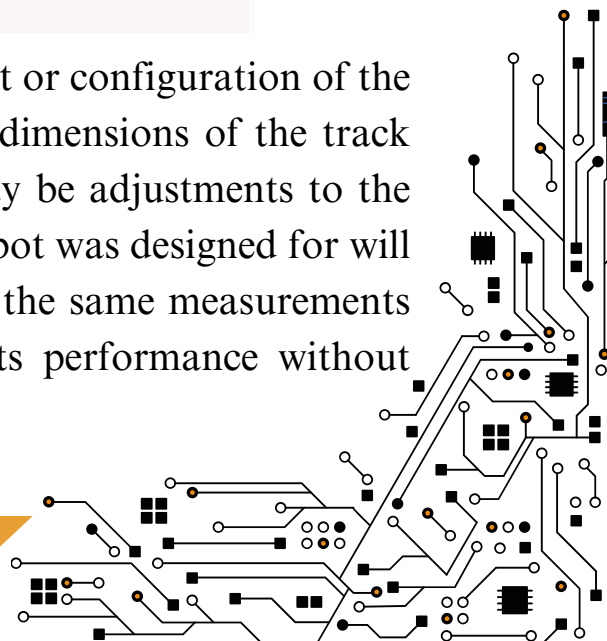
Arena Layout and Key Obstacles:

- **Description of the Competition Arena:** The competition arena is designed to challenge participants as they navigate their bots through various obstacles while crossing the checkpoints.



Note:

For Participant's Please be advised that while the layout or configuration of the arena may change on the day of the competition, the dimensions of the track will remain consistent. This means that while there may be adjustments to the arena's path or obstacles, the size and dimensions your bot was designed for will not be affected. Your bot will operate on a track with the same measurements as those previously provided, so you can focus on its performance without concern for dimension changes.



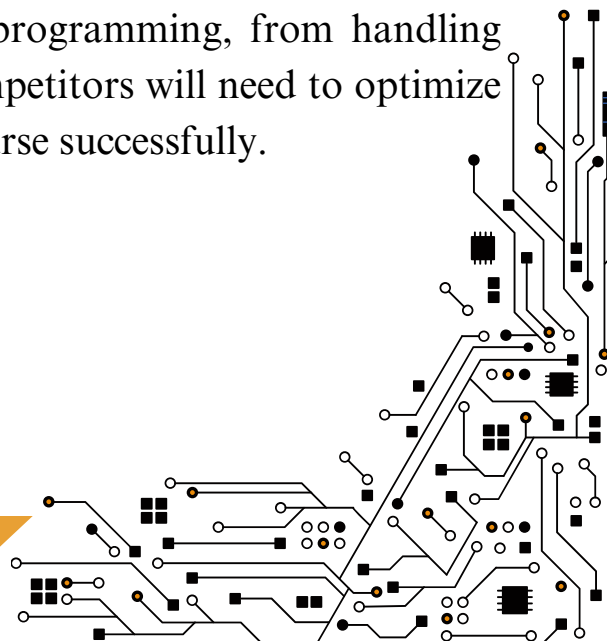
ARENA SPECIFICATIONS :

The Robo Race arena spans an area of 300 cm x 300 cm with a clearly defined track width of 40 cm. This challenging and dynamic course is designed to test the skills of participants' robots with a variety of obstacles and features, each crafted to push the limits of control, navigation, and speed.

Key elements of the arena include:

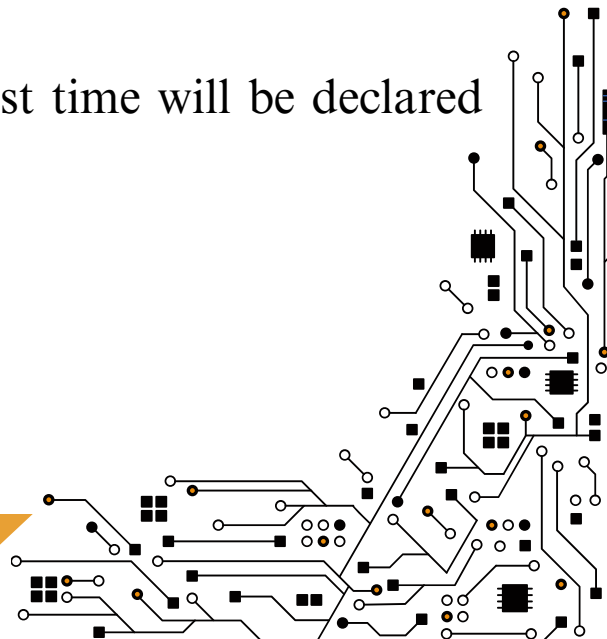
- **Speed Breaker:** A section with minor bumps to test the robot's stability and ability to handle uneven surfaces.
- **Curved Bridge:** A raised, curved pathway that requires precise maneuvering and speed control.
- **Sand Pit:** An area filled with sand that introduces friction, making movement slower and requiring better traction.
- **Slippery Path:** A section with reduced traction, simulating slippery conditions to challenge the robot's grip and balance.
- **Bridge:** A flat, elevated section that the robot must cross smoothly.
- **Seesaw:** A tilting platform where the robot's center of gravity and balance are crucial.
- **Obstacles:** Various barriers strategically placed along the track to challenge obstacle avoidance and pathfinding skills.

This arena offers an exciting mix of terrains and obstacles, providing a comprehensive test of each robot's engineering and programming, from handling diverse surfaces to overcoming physical obstacles. Competitors will need to optimize both design and control algorithms to navigate this course successfully.



Robo Race Gameplay and Judging:

1. A maximum of 8 minutes will be given to each team.
2. The bot must always stay inside the track and only the person controlling the bot can touch the bot when required. Whenever the controller touches the bot, or the bot comes out of the track, they must start again from the nearest checkpoint.
3. There will be checkpoints throughout the track.
4. The run timer will start when the front edge of the bot crosses the start line and stop when the front edge of the bot crosses the finish line.
5. If there is tie among two teams, the two teams will have to compete again but the maximum time limit will be reduced to 6 minutes.
6. The team that finishes the race in the least time will be declared the winner, followed by the runner ups.



Operational Rules and Regulations:

1. Safety Inspection:

- Each bot will undergo a safety check before the competition begins. If a bot is found to be unsafe for other participants, it will be disqualified.

2. Team Member Restrictions:

- Only one team member is permitted to handle the bot. No other team members are allowed to enter the arena during the run.

3. Time Limit:

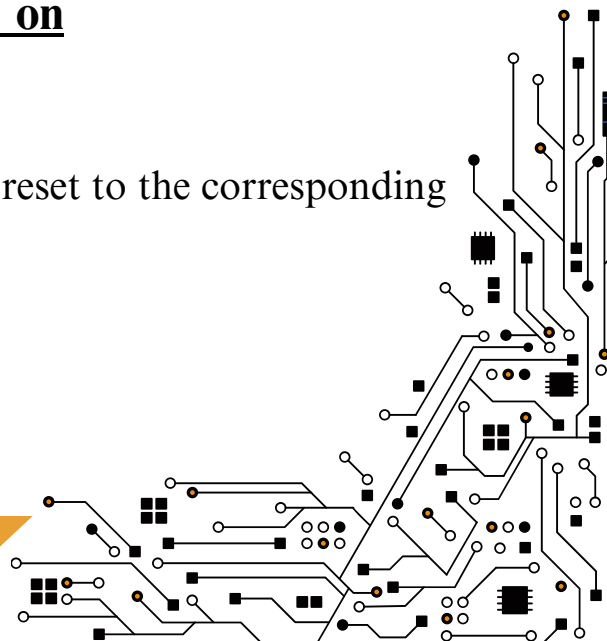
- A maximum of 8 minutes will be allocated to each team for completing the course.

4. Checkpoint Procedures:

- The arena has 4 checkpoints. If the bot is unable to cross any checkpoint or stuck at any point, the team must start the bot again from the nearest checkpoint, and the bot will be placed at the corresponding checkpoint without penalty. But the timer will not be stopped.

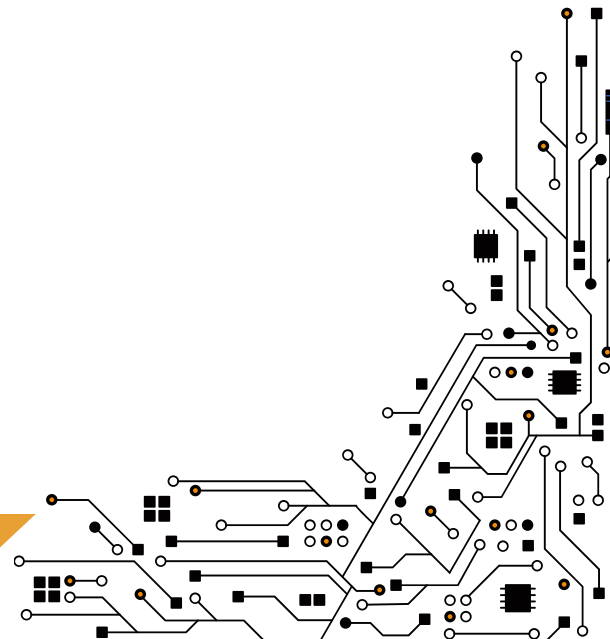
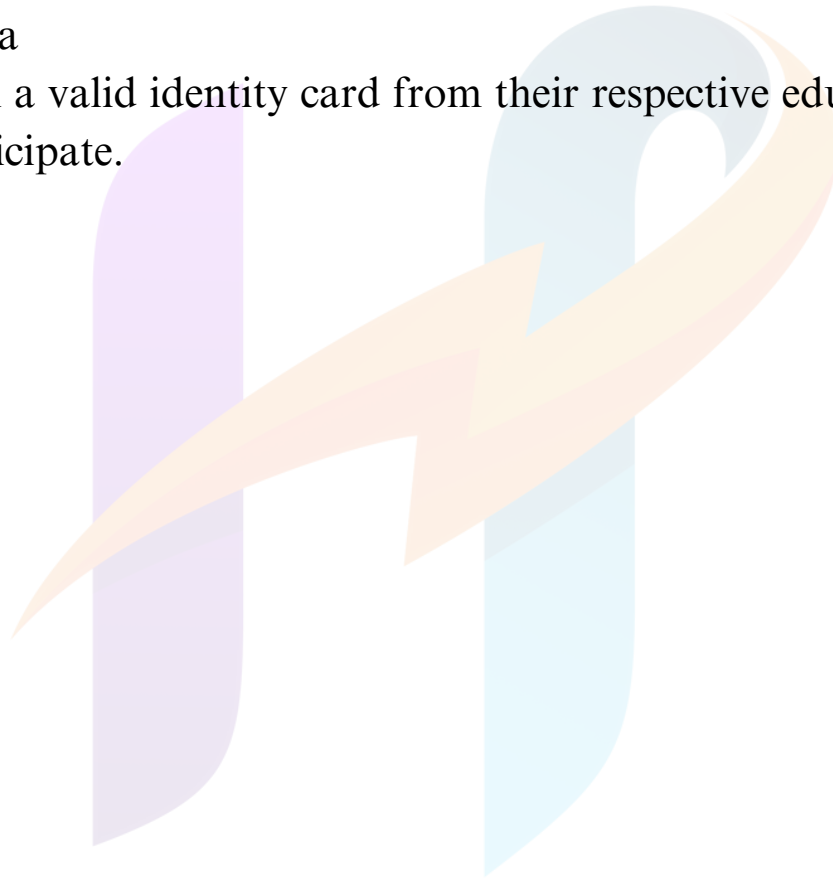
Checkpoint Rules and Penalties Details on Checkpoint Resets and Penalties:

- When a bot gets stuck or incurs a penalty, it will be reset to the corresponding checkpoint without incurring additional penalties.



Team Structure and Eligibility:

- Team Specifications
 - A team may consist of a maximum of 4 members.
 - Students from different educational institutes can form a team.
- Eligibility Criteria
 - All students with a valid identity card from their respective educational institutes are eligible to participate.



INQUIRIES

For General and Technical inquiries related to the **HAVANA '25**

E-mail : gelectra@gitam.edu

COMPETITION Related Inquiries

Nagireddi Aditya

8978739258

Email: anagired3@gitam.in

EVENT Related Inquiries

M SAI KRISHNA

7995988480

Email: smotapar2@gitam.in

G. Showry James

9912809485

Email: sgaleti@gitam.in

LOCATION:

GITAM (Deemed to be University)
Rudraram Village, Patancheru Mandal
Sangareddy District, Telangana – 502 329.



<https://maps.app.goo.gl/7baLjyD7oM3E7RBv6>

