

CYBORUN

Task:

Teams have to build an autonomous robot which can follow a black line and keep track of directions while going through the maze. The bot has to analyze the path in the dry run and has to go through the maze from the top right corner to the bottom left corner in minimum possible time.

Rounds:

There will be 3 rounds. Top 60% of participants will be taken to the next round. And this will follow in each and every round

Arena

1. The arena is composed of random paths made up of black strips.
2. Distance between two adjacent lines is 300mm.
3. The width of all white stripes will be 30mm.
4. The figure below shows the sample arena. The actual arena at the competition will consist of slight alterations in the path.
5. The original arena will be disclosed on the day of event.

Note: The dimensions of the arena will be accurate to within 5% or 20 mm, whichever is less.



Game Play

The bot have to go for a dry run. In this part the bot must start from the start zone to reach the End zone of the arena. The bot will be given a maximum of 3 minutes to reach the end point. The bot has to give a signal by glowing a LED as soon as it reaches the end point. The bot has to complete the task in minimum possible time.

Bot Specification:

1. Bot must be started individually by only one switch. However a team may have on-board switch for restart. This switch has to be shown to the organizer before the run.
2. Bot must have a LED which will glow once it reaches the end zone of the arena.
3. During the run, the autonomous bot must not damage the arena in any way. It is not allowed to leave anything behind or make any marks while traversing the arena. Any bot found damaging the arena will be immediately disqualified. The final decision is at the discretion of the organizers.
4. Bot must have on board power supply.

5. When using the electric power supply, the potential difference between any 2 points must not exceed 24 V at any point of time during the game.

6. The autonomous bot should not separate or split into two or more units. All bots/units which are touching each other or are in the starting point will be considered as one bot.

7. Machine cannot be constructed using readymade Lego kits, bricks kit or any readymade mechanism. But they can make use of readymade gear assemblies. Violating this clause will lead to disqualification of the team.

Game Rules

1. The teams will have to submit their bot before the start of the competition. Only those teams which submit their bots will be allowed to participate. The bot will be handed back to the team during the time of their run. They will be given 1 minute for calibration. If any team is found to alter its code after depositing its bots, then it will be immediately disqualified from the competition. They are however allowed to make any other hardware changes.

2. Only one autonomous bot per team is allowed.

3. When the autonomous bot starts, no team member is allowed to touch the bot or enter the arena.

4. At the start of the task, the bot will be placed at the starting point. Only 1 team member is allowed to be near the game field while starting the bot.

5. Run will start only when organizers give the signal.

6. The starting procedure of the bot should be simple and should not involve giving bot any manual force or impulse in any direction.

Restart Criteria:

1. The participants are allowed to take a maximum of 3 restarts in the entire match.
2. If the bot takes a restart in the first part of the competition, it has to start from the starting line.
3. If the bot takes a restart in the second part of the competition, it has to start from the start zone of the arena.
4. The timer will not be set back to zero and will not be paused.
5. During a restart, a contestant must not feed information about the arena to the bot. However, contestants are allowed to adjust sensors (gain, position etc.) and make hardware changes.
6. The contestant must not alter the bot in any manner that reduces its weight (e.g. removal of a bulky sensor array or switching to lighter batteries to get better speed). The organizers reserve the right to arbitrate in such circumstances

General Rules:

1. Only 1 member of the team is allowed to handle the bot.
2. Participants are not allowed to keep anything inside the arena other than the bot.
3. Laptops/personal computers are not allowed near the arena. Other Wi-Fi, Bluetooth, etc. devices must be switched off. The organizers hold the right to check for these devices and their usage and disqualify the team.
4. The time measured by the organizers will be final and will be used for scoring the teams.

5. Time measured by any contestant by any other means is not acceptable for scoring.

6. In case of any disputes / discrepancies, the organizers' decision will be final and binding.

7. The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.

8. Only one team is allowed to be present during the run, other teams will have to stay outside the hall.

Judging:

1. 25 points during dry points will be awarded to reach the end zone.

2. 5 points will be awarded if the bot glows LED just after it reaches the end zone.

3. Time will play the prior role in decision of winners. If there is a clash the higher score will be declared as the winner.

Team Specification:

A team may consist of a maximum of 4 participants. Students from different educational institutes can form a team

Eligibility:

All students with a valid identity card of their respective educational institutes are eligible to participate.