

## MAZE O MANIA

### Task:

- Teams have to build an autonomous robot which can follow a white line present in the maze.
- The bot has to go through the maze from the start to the stop in minimum possible time covering maximum number of checkpoints.

### Arena:

- Dimension – 2 m x 2 m (lxb)
- Note: Subject to change by +10cm or -10cm.
- The arena is composed of random paths made up of white strips.
- Angle between two adjacent white lines in the path is 90 degree.
- The width of all white stripes will be 3cm.

### Checkpoints:

The check points are shown in the figure.

### BOT SPECIFICATIONS:

- Dimension - 25 cm X 25 cm X 25 cm (l x b x h).
- Bot must have a red LED which will glow once it reaches the end zone of the arena.
- Any bot found damaging the arena will be immediately disqualified. The final decision is at the discretion of the organizers.
- Bot must have on board power supply. At max a battery of 24Volts.
- 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.
- No use of readymade 'Lego kits' or any readymade mechanism. But they can make use of readymade gear assemblies. Violating this clause will lead to disqualification of the team.

### Event Rules:

- Each will be given 60 sec for calibration. If any team is found to alter its code during competition, then it will be immediately disqualified from the competition. They are however allowed to make any other hardware changes.
- Only one autonomous bot per team is allowed.
- When the autonomous bot starts, no team member is allowed to touch the bot or enter the arena.
- 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 arena for starting the bot.
- Run will start only when organizers give the signal.
- The starting procedure of the bot should be simple and should not involve giving bot any manual force or impulse in any direction.
- A total of 5 minutes will be given. The bot have to complete the maze in that period only.
- The participants are allowed to take a maximum of 2 restarts in the entire event. The bot takes a restart from the last checkpoint. If no checkpoints are covered then it has to restart from the starting position.
- 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, But nothing should be replaced , removed or added.
- The timer will not be set back to zero and will not be paused in any case.
- In case of any disputes / discrepancies, the organizers' decision will be final and binding.
- 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.

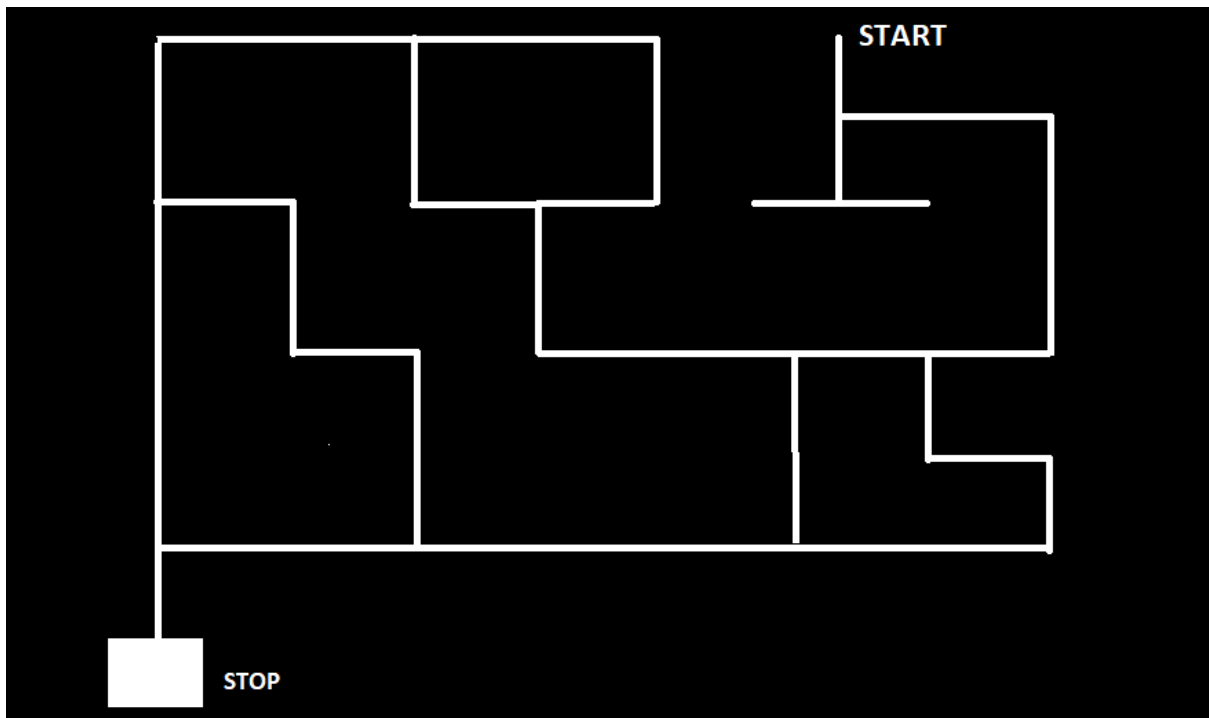
### Scoring format:

- $X = 10$  points will be awarded as it crosses any of the checkpoints but it will be counted only once for each checkpoint.
- $Y = 30$  points will be provided if the bot successfully solves the maze.
- $Z = 300$  - Total time taken in seconds in solving the maze.
- $\text{Total} = X + Y + Z$

The team with the highest total wins.

**Team Specifications:** A team may consist of a maximum of 3 participants.

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



ARENA WITH CHECKPOINTS:

