



ROBOMANIA
2K24

PMEC, BERHAMPUR



RULE BOOK

LINE FOLLOWER

ROBOSTREAKS CLUB

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LINE FOLLOWER

PROBLEM STATEMENT :

Sensing a line and maneuvering the robot to stay on path, while constantly correcting wrong moves by using feedback mechanism and forming a simple and effective closed loop system.

All the teams have to build an autonomous robot that can follow a black line path on white surface.

- The path may contain curves, loops and crosses. The robot has to follow the path from the start to the end.
- The team that completes the arena in shortest possible time will be declared as winner.

ROBOT SPECIFICATION:

- The Robot should have the dimension less than or equal to 200mm x 200mm x 150mm(L*B*H).
- It should start by a single switch which should be on board.
- It must be strictly autonomous. No external communication with bot like Bluetooth and Wi-Fi is allowed.
- Power supply should be on board and should not exceed 12V.
- The autonomous bot should not separate or split into two or more units means it must be of single unit while traversing the path.



- The autonomous bot cannot be constructed using readymade Lego kits, readymade chassis, readymade PCB or any readymade mechanisms. If you are using printed PCB or 3D printed chassis or other than the readymade chassis, then you have to show proof like video and gerber file. Violating this will lead to disqualification of the team.

ARENA SPECIFICATIONS:

- The arena will be disclosed at the venue on the day of competition.
- The arena is a black line on white background and it may contain geometric shape like curves, loops and crosses.
- Track has a START point where bot is placed at starting and it should follow the track till the END point.
- The line width will be in between 2cm to 3cm.

EVENTS :

Line Follower event consists of two rounds:

1. Qualifying round: Teams will be shortlisted and will be promoted to the final round.
2. Final round: Winners will be selected on this round on the basis of performance.



RULES :

- The bot must be started from the START point.
- Only 1 team member is allowed to be near the game field while starting and running of bot.
- The starting procedure of the bot should be simple and should not involve giving the bot any manual force or impulse in any direction. Run will start only when the organizers give the signal.
- Team must ensure that the surrounding lighting systems should not affect the performance of the bot. Any complaint regarding this will not going to be entertained.
- 3 minutes will be provided for trial run (for sensor adjustments and code verification) and 3 minutes will be provided for actual run. And the result in the actual run will be considered as final and will be evaluated for marking purpose. Exceeding the time limit in the actual run will lead to penalty (no extra time will be given for trial run).
- The bot should complete all part of the track during actual run. If the bot fails to continue the path by any means (if it is out of the track or if it skips any part of the track) then it should start again from the previous check point. The check points will be disclosed at the venue on the day of competition.
- The winners will be declared based on the score calculated from the time of competetion and penalties.
- The time measured by the organizers will be final and will be used for scoring the teams.



- Time measured by any contestant by any other means is not acceptable for scoring.
- In case, no bot manages to complete the track then distance travelled, penalties, number of hand touches and scores will be taken into consideration for the selection of the winner.

NOTE: The decision of judge will be considered as final. In case of any disputes/discrepancies, the organizer's decision will be final and binding.

TEAM SPECIFICATION :

- A team should consist of a minimum of 2 and maximum of 4 members.
- Students from different educational institutes can form a team but no pass out students are allowed.
- All Diploma/UG/PG students pursuing their course, must be present with their valid ID card of their college to meet eligibility criteria for this event.

IMPORTANT NOTE :

- Exceeding the mentioned dimensions, disobeying the rules and damaging the arena will lead to disqualification of the team.
- All the team members should bring their valid college ID cards.
- Cash prizes and certification will be awarded to the winning team & runner's up team.
- Event registration is free of cost.



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- The fixtures are decided randomly and the right to change them lies entirely in the hands of the coordinators. No mutual agreement among teams to change the fixtures is allowed.
- Once registration is complete you can not change, split or merge with another team.

****The organizing committee reserves the right to add or update rules at any time****





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EXCITING PRIZE POOL OF RS.15,000

1ST PRIZE

RS.7,000

2ND PRIZE

RS.5,000

3RD PRIZE

RS.3,000

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