# Trekkon - FASTEST LINE FOLLOWER

## INTRODUCTION:

"There is only one rule in the contest, once you're out of the line, you are out! Build an obedient bot whose only aim is to follow the line!"
Build your own autonomous robot within the allotted parameters, and aim for the fastest possible speed to outrun other robots on the track and arrive at the objective as quickly as possible.

## General Rules:

- Any part of the robot that crosses the finishing line during a full lap of the course counts as the robot having crossed it. The robot must begin behind the starting point. The robot must adhere to the black line.
- An individual may participate or construct a team of a minimum of 2 and a maximum of 6 members.
- Construct a remotely controlled wireless, autonomous, or manual Bot. The robot must not be made from any ready-made kit, if found so, the team will be disqualified.
- A bot must fit inside a 20 centimeters wide and 20 centimeters high cube at any point in time. Maximum weight should not be more than 5Kgs (including battery for wirelessly controlled bots. However, a tolerance of 5% is acceptable.). Participants need to ensure:
- Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
- The electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot.
- The Bot must not emit infrared light. However, optical sensors (e.g. infrared-distance-sensors) may be used if they do not affect other Bots.
- Infrared light-reflecting materials must not be used on the outside. If robots are painted, they must be painted matte. Minor parts that reflect infrared light could be used only if other robots are not affected. Robots must not produce magnetic interference for other robots on the field.
- Robots must be constructed and programmed in a way that their movement is not limited to only one dimension and must move in all directions.
- Any robotic parts/building material can be used until the robot meets the above specifications and if the design and construction are primarily the original work of the team as ready-made robots are not allowed to compete in the competition.
- The width of the black line will be **25mm**. The surface of the track will be white with a black line marked on it. The track may contain crossed, curved, or discontinuous black lines.

## Start and Restarts:

- Only the team leader will be allowed to handle the robot during the gameplay.
- The robot will be placed at the starting point with the consent of the referee.
- A robot may restart the run if the person handling it feels the necessity. A restart can be requested only if the robot doesn't follow the line, has stopped halfway, or has lost the directions/Black line.
- At any restart, the robot must be re-positioned back at the start point.
- It is not allowed to reprogram the robot or to add/remove parts on the robot during the run, but adjusting the sensors is permissible with the consent of the referee.
- The RACE CLOCK/RUN TIME will reset to zero on every restart. The COMPETITION CLOCK (maximum access time) will keep running during all restarts.
- Only 3 restarts are allowed for each round.

## A robot must restart if:

- The robot does not start after pressing the Start Button for 1 minute.
- The robot is touched by a human without the consent of the referee.
- The robot moves out of the arena.
- The referee orders to restart.

## Scoring Criteria:

- Max time allotted for each participating team is 5 min in first 2 rounds.
- In third round Max time allotted is 7 min.
- Better Algorithm will be appreciated and extra points will be awarded.
- Scoring formula = (300 - time_to_solve)

## CONTACT DETAILS:

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