



THE ROBOTICS CLUB
Integrating Knowledge...

LAKEHMANREKHA



GREENIDHI'S ANNUAL TECHNICAL FEST

ROBOVEDA'25

EXPLORE THE UNWRITTEN LORE...



R U L E B O O K



1. GAME AND RULES:

1.1. PROBLEM STATEMENT

1.1.1.1. Design a robot capable of autonomously following a predefined path marked by a contrasting line on the ground. The robot should accurately detect and navigate the line using sensors while maintaining stability and speed.

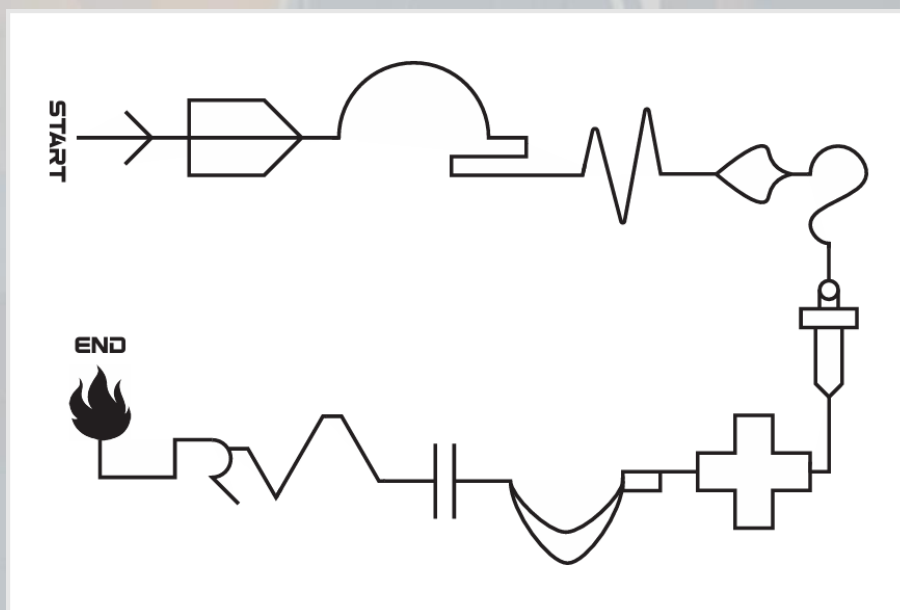
2. GAME FIELD AND OBJECTS:

2.1. ARENA

2.1.1. Path of the line follower, being black in colour will be placed on the flex sheet.

2.1.2. The width of the track will be 3cm (*).

2.1.3. All dimensions mentioned are within the error limit of 10%.



3. TEAMS:

- 3.1. There is no team limit.
- 3.2. Only 2 members of a team are allowed to stay around the arena (for calibrating and assisting).
- 3.3. Members of different institutions can form a team.
- 3.4. Students who are pursuing any course up to post-graduation can participate.

4. ROBOTS:

4.1. ROBOT SPECIFICATIONS

- 4.1.1. Robots should deal with the lighting conditions including photography as well.
- 4.1.2. All the systems (battery, sensors, data processing and control systems) must completely reside on the robot itself.
- 4.1.3. A robot is allowed to participate only once in the event. The robot can participate once again with the same team if it satisfies the following conditions:
 - The team has to register once again with a modified old robot/new robot before registrations close and a maximum of 3 registrations will be accepted.
 - Wheels or motors or chassis materials should be changed to consider an old robot as a new one.
- 4.1.4. The robot should not expand or compress during the run.
- 4.1.5. Usage of potentiometers is allowed only during the calibration time period and strictly prohibited in between the games.
- 4.1.6. LEGO kits are not allowed.

4.2. DIMENSIONS

- 4.2.1. Maximum dimensions of the robot should be 20cm*20cm*20cm(l*b*h). (Tolerance of 5% is allowed in this regard).



4.3. POWER SUPPLY FOR ROBOTS

- 4.3.1. The power supply should not exceed 12V. (Tolerance of 5% is allowed in this regard).
- 4.3.2. No external power supply will be provided at the time of the event.

4.4. WEIGHT

- 4.4.1. The maximum weight of the bot should not exceed 3KG.

5. SAFETY:

- 5.1. All the required accessories should be brought by the participants.
- 5.2. Team RoboVeda is not responsible for any damage to the robot.
- 5.3. Technical assistance will not be provided by coordinators or technical team.

6. THE COMPETITION AND MATCHES: There are two rounds

I. Qualifying Round

II. Final Round

6.1. QUALIFYING ROUND

- 6.1.1. A qualification round will be there on the first day of the event.
- 6.1.2. If the robot traverses the path within the given time with the least penalties, then the robot will be qualified in the first-round.
- 6.1.3. Maximum time span to traverse the path will be mentioned on the day of the event.
- 6.1.4. The participants will be provided 3 minutes of time for calibration and making any changes in their code before entering the arena.
- 6.1.5. Checkpoints will be pointed out in the arena at the time of the event by Coordinators.
- 6.1.6. Participants successfully completing the round 1 arena are only forwarded to the final round.



6.2. FINAL ROUND

6.2.1. Participants who crack the 1st round arena within the given time and least penalties will be shortlisted to the final round.

6.2.2. The robot participating in the final round should be the same one that participated in the qualifying round. Modifications will be allowed for the robot (only if previously used parts are damaged) in between the rounds only if the following conditions are satisfied :

- The participant must show both the damaged part of the robot (wheels, chassis, motors, motor driver) and the replaced part of the robot (wheels, chassis, motors, motor driver) on the day of the final round.
- Heads or coordinators of the event will allow the modified robot only if the damaged part and replacement part are the same/similar.

6.2.3. The final round arena will be displayed on the day of the event.

6.2.4. The winner of the final round will be the team which cracks the arena in the least amount of time.

7. COMPETITION RULES:

7.1. TECHNICAL TIMEOUTS

7.1.1. A technical timeout of 2 minutes can be taken by a team.

7.1.2. After the finishing of technical timeout, the timer will start again and will not be stopped under any circumstances.

7.1.3. No technical assistance will be provided by the event coordinators or heads during the event.

7.2. SCORING & PENALTIES

7.2.1. The maximum time span to traverse the path will be mentioned on the day of the event (Qualifying round) by the coordinator.

7.2.2. The number of resets allowed are 2 only if the robot moves out of the arena (line).

7.2.3. If the robot moves out of the arena more than twice no resets will be provided and the robot will be considered as disqualified (not qualified for further rounds).



7.2.4. The robot should be able to complete the given task with least penalties.

7.2.5. Manual touch will be considered as a penalty.

7.2.6. Each time the bot is touched, it incurs a penalty, which adds time to its overall completion time. This accumulated time will be considered in the selection of qualifiers for level 2.

7.2.7. Arena Damage and Out of Arena incidents will also be considered as penalties.

7.2.8. Scoring schema (including penalties) will be disclosed on event day by heads and coordinators.

7.3. BASIC RULES

7.3.1. All the required accessories must be brought by the participants (additional components will not be provided at the event).

7.3.2. If the participant's robot size exceeds the given dimensions, he/she is allowed to change the motors, tyres, etc, to match with the given dimensions.

7.3.3. Once the bot is placed on the path, participants are not allowed to touch it. Only the coordinators are permitted to handle the bot.

7.3.4. There will be 3 to 4 checkpoints between the starting and ending points.

7.3.5. If the bot loops we reset it to the starting position if it hasn't crossed the first checkpoint. If it has already crossed the first checkpoint, we reset it to that checkpoint, and so on, up until the last checkpoint is reached.

7.3.6. The time measured by the coordinators will be final and is not subjected to change.

7.3.7. In-case of unfair outcomes, the coordinator's decision will be final.

7.3.8. Practice run is only permitted by permission from coordinators, traverse distance for practice runs will be mentioned by coordinators at the time of the event.

7.3.9. The robot which will start on the "START" tile and reach the "END" tile block by following the black lines in the shortest time will be nominated as the winner.

8. DISQUALIFICATION:

8.1. Any kind of damage to the arena will not be entertained, and if done, the robot will be immediately disqualified.



8.2. No technical assistance will be provided by the coordinators during the time of the event; request for technical assistance leads to disqualification of participants permanently from RV-25 events.

8.3. If a participant does not comply with the rules of the event, he/she will be disqualified from the event.

8.4. If the robot causes damage to the arena more than 3 times, it will be disqualified.

8.5. All the Participants should note the requisite timings of the event. Approaching the event after the mentioned timings is not tolerable and leads to disqualification of teams.

8.6. Robots should not damage the arena. If it does, the robot will be instantly disqualified.

8.7. Exceeding the bot size beyond maximum dimensions will lead to disqualification.

8.8. The robot should be in the given dimensions. Or else it will lead to the disqualification of the team.

8.9. If a participant does not comply with the rules of the event, he/she will be disqualified from the event.

8.10. Misbehavior of any kind will not be tolerated, and the team will be subjected to disqualification from Roboveda.

8.11. A robot with the base of a toy car and its gearbox as a machine part will be disqualified. Also, LEGO kits are strictly prohibited and will lead to disqualification.

9. COMPETITORS AND BEHAVIORAL RULES:

9.1. All participants will be given a Certificate of Participation.

9.2. Winners and runners will be given a Certificate of Merit.

9.3. Members from a team cannot participate in another team for the same event.

9.4. In case of any discrepancies, the decision of the coordinator, technical deputies and the event head shall be the final and no further arguments shall be entertained.

9.5. Participants are allowed to participate once again if they satisfy rule 4.1.3.

9.6. We request the participants not to assume anything without contacting us.

9.7. Team Roboveda is not responsible for any kind of damage to your robot.

9.8. All participants must bring their ID cards.

9.9. Team Roboveda is not responsible for any damage to your robot on or off the event.



9.10. We request the participants not to assume anything that is not mentioned in the document without contacting the coordinators or Technical Team.

9.11. It is our sincere request to all the participants to go through this rule book thoroughly and not a single point mentioned in this rule book will be compromised under any circumstances. We also request you to have a copy of this book during the event.

9.12. Make sure you visit our official website on a daily basis so that you will get to know if there are any changes made in the event.

9.13. Check this rule book frequently, it may have some changes.

9.14. Any kind of misbehaviour will not be tolerated and will lead to disqualification of the team.

9.15. If you choose our hospitality, the payment must be done on the day you check in.

EVENT COORDINATORS:

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