LINE FOLLOWER ROBOT RULEBOOK

Presented by Karuyantra Robotics Club – Karuyantra Carnival, Elysian 3.0 (GGSIPU)

1. Event Overview

Line Follower Robot is an exciting event where participants design an autonomous robot capable of detecting and following a predefined line path using ir sensor array. The objective is to complete the entire course in the shortest possible time with maximum accuracy. The competition will be conducted in two stages: Round 1 – Qualifiers (based on completion time and accuracy) and Round 2 – Finals (fastest and most precise robots compete for the title).

2. Team Formation

- Teams of 1–4 members.
- Cross-institute teams are allowed.
- Individual participation is not permitted.
- A participant cannot be a member of more than one team.

3. Robot Specifications

- Type: Fully autonomous robot (no manual control allowed).
- Maximum Dimensions: 25 cm (L) × 25 cm (B) × 20 cm (H).
- Weight Limit: 1 kg.
- Power: Maximum 16.8 volts DC, using onboard power supply only.
- Sensors: Robots shall use IR, color, or similar sensors for line detection.
- Control System: Microcontroller or microprocessor-based.
- Design: Robot should be capable of handling sharp curves, intersections, acutes, and possible gaps on the line.

4. Track Specifications

The track will consist of a white base with a black line or vice versa. The width of the line will be **20 mm**. The track may include sharp turns, intersections, curves, line breaks and acutes. Checkpoints will be placed at various intervals to assist in restart points for incomplete runs.

5. Gameplay Rules

- The robot must operate autonomously after the start signal.
- Timer starts as soon as the robot begins to move and stops when it crosses the finish line.
- Final rules will be conveyed during the course of the competition

6. Penalty System

- Penalty system will be specified during the course of competition
- Arena damage or foul play Immediate disqualification

7. Judging Criteria

- Total time taken (including penalties)
- Accuracy in following the line
- Smoothness and consistency of motion
- Technical innovation in design and control algorithm

8. Referee & Judging Authority

- Referee's decision will be final and binding.
- Any misconduct or argument with judges will lead to disqualification.
- Protests must be raised respectfully immediately after the round.
- Organizers reserve the right to modify rules depending on event circumstances.

9. Safety & Conduct

- No practice runs on the main track.
- Robots should not shed or detach parts during operation.
- Damaging the track or another robot will result in disqualification.
- Participants must ensure that their robots comply with all safety standards.

10. Certification

- Participation certificates will be provided to teams completing at least one official round.
- Disqualified teams will not be eligible for certification.

11. Results & Tie-Break

- Winners will be decided based on the shortest total time (after penalties).
- In case of a tie, the decision will be based on the performance in the qualifier round.
- The organizing team's decision will be final and binding.

12. Contact

For queries or assistance, reach out to:

7217705292 - Krish
8588930528 - Kunal

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