

ROBOVANTA – ROBO RACE WITH HURDLES & OBSTACLES RULE BOOK

1. Event Overview

Robo Race is a speed-based competition where robots must navigate through a challenging track containing hurdles, ramps, zig-zag paths, speed breakers, tunnels, and obstacles in the shortest possible time.

The robot completing the course in the least time while following all rules will be declared the winner.

2. Team Structure

- Team Size: **1–4 Members**
 - One robot per team.
 - Only one operator may control the robot during the run.
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3. Robot Specifications

Dimensions

- Maximum Size: **300 mm × 300 mm × 300 mm**

Weight

- Maximum Weight: **5 kg**

Power Supply

- Maximum Voltage: **12V DC**

Control

- Wired Robots Allowed
- Wireless Robots Allowed

Robot Requirements

- Robot must be completely self-contained.
 - Sharp edges or hazardous components are prohibited.
 - Flying or jumping robots are not permitted.
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4. Arena Elements

The track may contain one or more of the following:

- Speed Breakers
- Inclined Ramps
- Zig-Zag Path
- Narrow Passages
- Tunnel Section
- Small Hurdles
- Bumps
- Uneven Surface
- U-Turns
- Obstacle Blocks

Arena layout may be changed before the event.

5. Competition Format

Round Structure

- Knockout Format

Race Duration

- Maximum Race Time: **3 Minutes**
- Final Round Time Limit: **5 Minutes**

Robots failing to complete within the time limit will be disqualified from that run.

6. Starting Procedure

1. Robot is placed at the starting line.
2. Operator positions robot within designated area.
3. Referee gives:
 - Ready
 - Set

- Go

4. Timer starts immediately.

7. Winning Criteria

Winner will be decided based on:

1. Successful completion of track.
 2. Fastest completion time.
 3. Least penalties.
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8. Checkpoints

- Checkpoints may be placed throughout the track.
 - Missing a checkpoint will result in a penalty.
 - Referee's decision regarding checkpoints is final.
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9. Penalty Rules

Violation	Penalty
Touching robot by team member	+10 Seconds
Missing checkpoint	+20 Seconds
Crossing boundary	+10 Seconds
Unsafe operation	Disqualification

10. Restart Rules

- restart permitted per run.
 - Timer will continue running during restart.
 - Robot must restart from previous checkpoint.
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11. Human Intervention

Human intervention is allowed only when:

- Robot is completely stuck.
- Referee grants permission.

Penalty:

- +10 seconds per intervention.
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12. Disqualification

Teams will be disqualified for:

- Exceeding size or weight limits.
 - Operating above 12V.
 - Intentional damage to arena.
 - Dangerous robot design.
 - Unsportsmanlike conduct.
 - Repeated rule violations.
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13. Safety Rules

- Batteries must be securely mounted.
 - Wiring should be properly insulated.
 - Exposed rotating blades or hazardous mechanisms are prohibited.
 - Organizers may reject unsafe robots.
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14. General Rules

- Judges' decisions are final.
 - Organizers reserve the right to modify arena obstacles.
 - Teams must report at least 15 minutes before their scheduled match.
 - Late reporting may lead to disqualification.
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Event Summary

Parameter	Specification
Event Name	Robo Race with Hurdles &Obstacles
Team Size	1–4 Members
Robot Size	300 × 300 × 300 mm
Maximum Weight	5 kg
Maximum Voltage	12V DC
Control	Wired / Wireless
Format	Knockout
Race Time	3 Minutes
Final Time	5 Minutes
Objective	Complete Track in Minimum Time

Track Challenges

- Speed Breakers
- Ramps
- Zig-Zag Path
- Tunnel
- Narrow Path
- Hurdles
- Obstacle Blocks
- U-Turn Sections

"Speed, Precision, and Control Decide the Champion!"