Sreenidhi's Annual Technical Fest ★ ISO 20121:2012 CERTIFIED

ROBOVEDA'23

explore the unwritten lore...

YANTRAA

RULE BOOK

ISO
20121:2012

YANTRAA
(Open for all)

Our engineering team is coming into limelight again by creating an amazing track which tests speed and precision of expert drivers that have come to participate in this breath-taking event at ROBOVEDA, YANTRAA. It's about a remote, a car and even more action to it, even more emotion filling the air as these diehard controller's race to win.

1. <u>GAMES AND RULES:</u>

1.1 There will be two rounds in the event. The first round will be a qualifying session with each team getting 3 laps.

1.2 The arena for the second round will be released on the day of the event.

1.3 The top teams from the qualifying round will be eligible to be part of the second round.

1.4 The track will have check points at regular intervals. If a machine tumbles, or halts, or goes off the arena at any point on the track, one of the team members is allowed to lift it up and place it at the nearest checkpoint behind that point. The time shall still be running in the meantime.

1.5 If any of the machines starts off before the flag is waved, the counter would be restarted, and the machine will get a second chance. However, if any machine starts off before the waving of flag (or countdown) for a second time, it will be disqualified. No re-match will be held for the second time.

ARENA MODEL
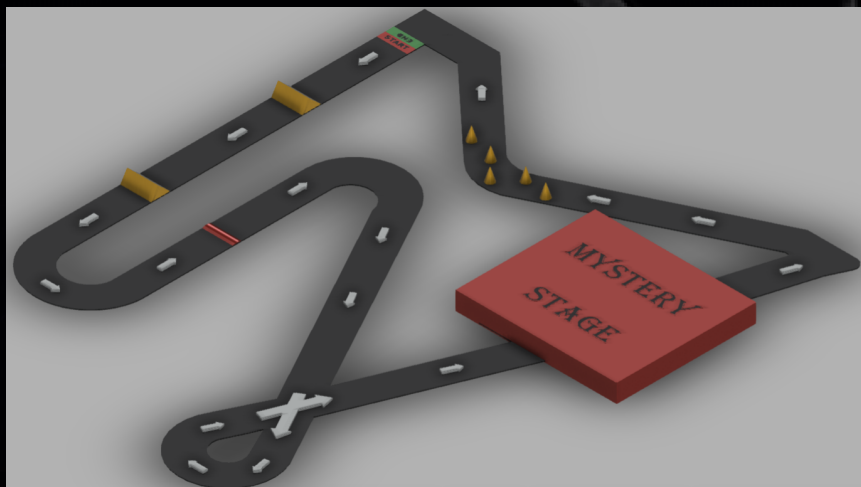
ARENA MODEL (TOP VIEW)



2. GAME FIELD AND OBJECTS:

2.1. Setting of Robot:

2.1.1 The team should set up their robots within the setting time before the game begins.

2.1.2 All the team members are allowed to participate.

2.1.3 Once the team has completed the setting up process, the team can start their robot with the permission of the referee. If the team fails to set up the robot in the given time, they can only continue after the game starts.

2.2. Start of the game:

2.2.1 The robot must start at the starting zone.

2.2.2 Except for one team member who is operating the bot, the other team members have to stay outside the field.

2.2.3 The operator is not allowed to run around the game field.

2.2.4 The operator has to stand in the place allotted to them.

2.3. Stage 1:
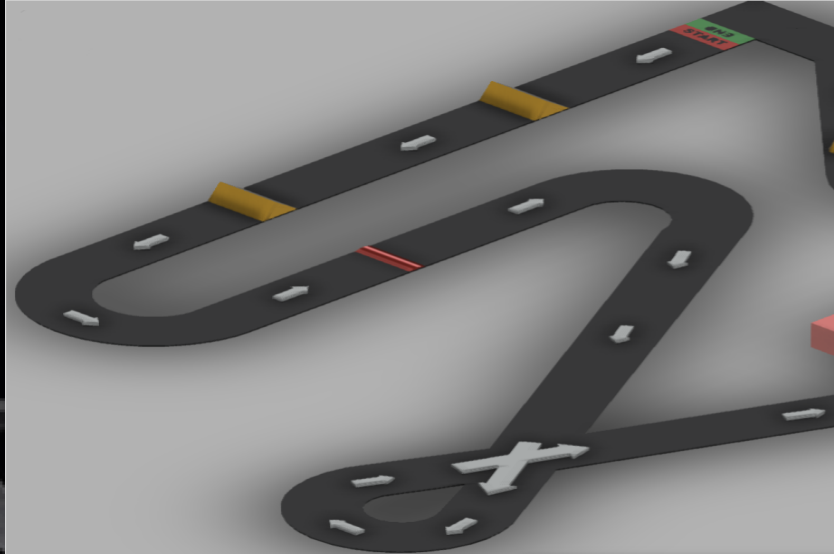
2.3.1 The robot will be placed in front of the start line in the start zone.

2.3.2 The robot has to navigate through the path which contains two ramps and a speed breaker.

2.3.3 The inclinations will have a base of 1m, and a height of 0.5m with an inclination of 30 degrees and downward inclination of 60 degrees. The track will have a width of around 1 meter.
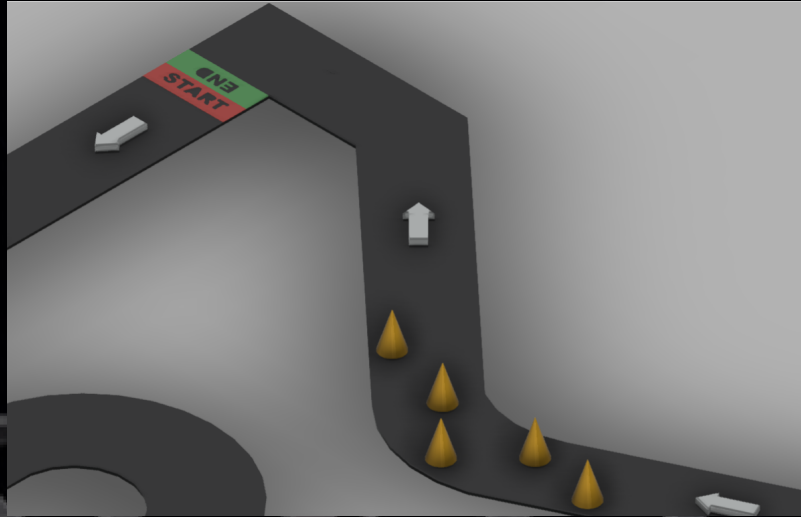
2.4. Stage 2:

2.4.1 A mystery stage will be revealed on the day of the event.

2.5. Stage 3:

2.5.1 The robot should navigate along the given path, filled with cones/tires.

2.5.2 The robot should avoid touching the cones/tires, every cone/tire touched will lead to a penalty.

2.5.3 The robot has to pass through the speed beakers.

NOTE: There could be minor changes in the arena on the day of the event. If any major changes are made, they will be updated on the website. As the event will be taking place outdoors, the arena design can have major changes if the weather is not favorable on the day of the event.

3. TEAMS:

3.1 There is no team limit.

3.2 All the team members can help in setting up the robot.

3.3 Only one member is allowed to operate the robot, and the other members have to stand outside the arena.

3.4 The members can belong to different institutions.

3.5 Participation is open for all categories.

4. ROBOT:

4.1. Robot Specifications:

4.1.1 Machine should fit in a box of dimensions 500 mm x 400 mm x 250 mm (l x b x h) at any moment of time during the race. The external device which is used to control the machine is not included in the size constraint.

4.1.2 The machine should be controlled by a wireless remote-control mechanism throughout the race.

4.1.3 The machine can have ready-made parts, but self-assembled is preferable.

4.1.4 The machine may be roughly classified into structural and functional parts: Functional parts -Gears, differential gear, engine, springs, shock absorbers, servo motors (non-propulsion purposes only), batteries, wheels, wheel hub are allowed to be used as available in the market.
Structural parts - Chassis, steering mechanism, shock towers and suspension (excluding upper suspension arm, suspension spring and shock absorbers) have to be preferably self-assembled.

4.1.5 The tires used must have a minimum diameter of 70mm. You are advised to use tyres of good width for better performance on dirt tracks.

4.1.6 Brake Mechanism: It is compulsory to incorporate a braking mechanism in the car. Any other part used in the braking mechanism (including the brake disk) can be ready-made.

4.1.7 Wheel Hub: Any part rigidly attached to the wheel hub will be considered as a part of it and hence can be ready-made. An example here is that of the ball stud.

4.1.8 There could be some wet areas on the track, so ensure your robot can go on a slightly wet track.

4.1.9 An error tolerance of up to +5% or -5% is allowed in the specifications of the bot.

4.1.10 All teams are requested to carry a specification sheet during the event day, to help speed up the inspection round.

4.2. Propulsion, Power Supply and Weight:

4.2.1 The machine can use mechanical power generated by an internal combustion (IC) engine.

4.2.2 There shall be a countdown preceding the start of the race. No participant is allowed to touch the machine during the countdown period.

4.2.3 Providing a clutch mechanism between the engine and the wheel would prove useful, as it would prevent the engine from dying out at any stage of the race.
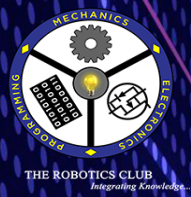
4.2.4 Participants are advised to use a proper cooling mechanism to prevent overheating of the engine.

4.2.5 Participants are advised to use sway bars for better control and stability.

4.2.6 The participants are advised to use proper air filters as dirt might cause serious problems to the engine.

4.2.7 Readymade wheels are allowed.

4.2.8 The machine will be inspected and if found to be dangerous, the team will be disqualified. This decision rests solely with the judges and the organizers.

4.2.9 There is no weight limit for the robot.

5. SAFETY:

5.1 All robots must be designed such that they don't pose any danger to any person, robot or the arena. If a robot is not designed in such a way, it will be disqualified.

5.2 The usage of explosives, fire and dangerous chemicals is not allowed.

6. COMPETITION AND MATCHES:

6.1 Matches:

6.1.1 There will be one qualifying round followed by the final round on the next day.

6.1.2 It is mandatory for the robot to clear the qualifying round to take part in the final round.

6.1.3 Every bot has to complete three laps in both the rounds.

6.2. Competition Rules:

6.2.1 Before the round starts, there will be an inspection round where the bot will be checked by the event coordinators.

6.2.2 The inspection round will be done after the setting up of the bot.

6.2.3 After the inspection round, the bot should be placed in the start zone. The team members are not allowed to touch the bot once it is placed on the start zone.

6.2.4 If setting up is not completed, the members can only work on the bot after the round starts.

6.2.5 Any team found to be posing a danger to another team's bot will either face a serious penalty or disqualification.

6.2.6 All the rules declared in this rule book are final, and arguing with the event coordinators on the day of the event will not be entertained.
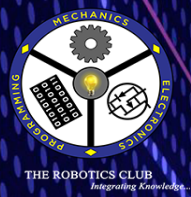
6.3. Scoring:

6.3.1 Penalties and points awarded will be announced on the day of the event.

7. VIOLATION AND DEDUCTION OF POINTS:

7.1 The robot must stay within the marked boundaries at all times or it will be counted as a violation.
7.2 The robot has to follow the determined path, else it will be counted as a violation.
7.3 Every violation will lead to deduction of points.

8. DISQUALIFICATIONS:

8.1 If a team intentionally damages the arena, equipment, or another team's bot, they will be disqualified.
8.2 If the robot enters the arena during another team's lap, it will be disqualified.
8.3 If a team performs any acts that are not in the spirit of fair play, they will be disqualified.
8.4 If the team fails to follow the instructions of the event coordinators also they will be disqualified.
8.5 If a team makes a false start twice in the same match, they will be disqualified.
8.6 Team members are not permitted to touch either their machines or those of their opponents once the race begins. The penalty for doing so is disqualification.
8.7 The machines are not allowed to leave any loose parts on any part of the arena. Any machine disintegrating during the race will be disqualified.
8.8 Execution of these rules will be subjective and relies completely on judges' discretion.

9. OTHERS:

9.1 Maintain a physical distance of 1-2m from others, even if they are not sick.
9.2 Wear a mask that fits properly and frequently sanitize yourself with alcohol-based hand rub(sanitizer) or soaps.
9.3 Make sure your mask covers your nose, mouth and chin.
9.4 If you feel any kind of Covid-19 symptoms, make sure you inform coordinators immediately.
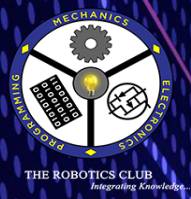9.5 It's important for every participant to strictly follow the Covid-19 Protocols.
9.6 All participants will be given a Certificate of Participation.
9.7 Winners and Runners will be given Certificate of Merit.
9.8 All Participants must bring their respective college ID cards.

9.9 Participants are allowed to participate only once in that particular event.

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

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

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

9.13 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.

9.14 Any kind of misbehavior 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.

9.16 In unforeseen circumstances, team Roboveda abides to the decision of the institution regarding the conductance of the event. Only registered participants will be informed about the change in event dates or cancellation. In that case, the registration fee will be refunded.

9.17 Events Ranaveera, Pushpak and Yantraa are open categories. All the remaining events are open for students pursuing up-to B.Tech level only.

9.18 The registration fee per individual in a team is ₹299 with which the entrant can participate in Yoddha, Samanvayi and Jaladhmatra.

9.19 The registration fee per individual in a team is ₹549 with which the entrant can participate in all the events except Pushpak, Ranaveera, and Yantraa.

9.20 The registration fee is ₹799 for which the entrant can participate in all the events including Ranaveera(any one category only), Pushpak, and Yantraa.

9.21 The registration fee is ₹849 for which the entrant can participate in all the events including Ranaveera(both categories), Pushpak, and Yantraa.

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

***** THANK YOU *****

EVENT COORDINATORS:

D. VAMSHI - +918639933075
J. SIDDHARTH - +919701053794