RADIX – ROBO RACE

Infinity War

Problem Statement

The tyrant Thanos is hell bent on getting his hand on the Infinity Stones. Once he does, it'll spell certain doom for The Universe.
The Avengers are putting up a brave stand against him, trying to stop him from reaching the Stones. Even at their best, they're able to only slow him and his massive army down. They are in dire need of assistance.

Only a robot can make the treacherous journey to the Infinity Stones.

Do you have what it takes to make one which can handle any obstacle thrown its way? Can the Avengers rely on you to save the Universe while they wage The Infinity war?

Track Specifications

1. The track may be uneven and width may vary from 35 cm to 100 cm.
2. The obstacles present on the track may be present in the form of
    a. Sand, Gravel, Oil, Grease, Mud, crystal balls, nails, splinters, straws, pipes and other forms of debris.
    b. Blocks, inclined surfaces, Stairs and steps of maximum height 4 cm.
    c. Water and Fire.
3. The whole track will have various checkpoints at regular intervals.

Robot Specifications

1. Robot must fit inside a box of dimensions 30cm x 30cm x 30cm during the whole course of run.
2. The external wired/wireless remote control used to control the machine manually as well as the externally placed power supply is not included in this size constraint.
3. During the game, the machine cannot expand or detach itself into multiple parts.

4. Machine cannot be constructed using readymade Lego kits or any readymade mechanism. Violating this clause will lead to disqualification.
5. The machine should not harm the track by any means. Use of chemicals that affect the track is prohibited.
6. The machine would be checked for its safety before the race and would be discarded if found unsafe for other teams and spectators.
7. The machine has to be necessarily controlled by some wired/ wireless remote control mechanism at all stages of the game.
8. In case of wired mechanism, the wire must be slack for the duration of the game. The total length of wire extending from the remote control to the machine must be a minimum of 10 meters. The participants must ensure that the wire does not get entangled with the opponent's machine during the game.
9. The machine can use an externally placed or on-board electric or non-electric power supply. However, the power supply must be non-polluting and must satisfy the safety constraints determined by the judges. In case the machine is using a non-electric power supply, the team must get it approved from the organizers beforehand via email. Organizers are not responsible for inconvenience if approval is not sought.
10. The method of propulsion is at the discretion of the builder, provided it does not damage the track in any way and it satisfies the safety constraints determined by the judges.
11. The organizers will provide a standard single phase, 230V, 50 Hz, 10A AC power supply. Any extension cords, eliminators, adaptors etc. required will have to be arranged by team themselves.
12. One of the team member has to check the power supply during the complete run of his team, organizers do not hold any responsibility of lose connections.

Competition Rules

1. A team may consist of a maximum of 4 members.
2. Teams can be made from different years and colleges as well.
3. Robots of two teams selected anonymously will compete with each other at a time.
4. During the race if the robot fails to cross an obstacle, the team may skip it and the robot can start from the next one. However, the team will be penalized with additional time as mentioned on the check point.

5. At no point during the run, robot should come out of racing track (due to poor manoeuvring or hitting by the opponent robot etc.). In such a case, the robot will be placed on the last cleared checkpoint and allowed to continue from that point.
6. Organizers' decision in this regard would be the final and binding.
7. To encourage wireless control, the team will be given a time bonus of +20 seconds if your robot is wirelessly maneuverer.
8. If wires of the two robots get entangled, the timer would be stopped and the respective teams shall be allowed to disentangle it and start the race again but from the last cleared checkpoint. However, any desperate attempt to entangle the wires or harm other bot will be dealt with strictness and the concerned bot will be penalized.
9. The team will not be allowed to touch their robot once it has entered the track, unless and otherwise required with prior permission of the organizer but the timer won't be stopped. There is no provision for timeout if the robot needs to be fixed while on the track.
10. Power supply will be provided in the event premises and needed to be checked by the team itself.
11. Using any unfair practices to complete the track or damaging the opponent's wires, will lead to disqualification of the team.

General Rules

1. The teams must adhere to the spirit of healthy competition. The teams must not damage the opponent's machine in any way. Judges reserve the right to disqualify any team indulging in misbehaviour.
2. Any team that is not ready at the time specified will be disqualified from the competition automatically.
3. Judges decision shall be treated as final and binding.
4. The organizers will not hold any responsibility for any damage/loss sustained by the machine/team during the game.
5. The organizers reserve all rights to change any or all of the above rules as they deem fit. Any change in rules, will be highlighted on the website.

Please regularly check the website for further updates on the competition and the change in rules and regulations, if any. For any queries, mail to us at radix.troika@gmail.com

All the Best! #HappyTroika☺

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