

Robo-Race

“More speed, more power with minimum time”

Game Play:

- ❖ The motive is to design a wired/wireless robot being autonomous or manually controlled machine that is capable of completing the ALL TERRAIN Arena successfully in minimum time.

Track:

1. Track surface and course may have unevenness.
2. There might be abrupt angles.
3. There will be certain obstacles in race track which will try to slow down the speed of the robot ex. Road cones.
4. Arena will consist of switch gate, speed breakers, marble/sand pits, slippery paths, rotating disc, see-saw, slotted ramp etc.
5. The track will have a certain number of checkpoints (*Red Flags*).
6. Actual track will be revealed on the day of the event.

Machine Specifications:

1. The dimension of bot should not exceed 20x20x20 cm³ (L*B*H). Non adherence to the dimensions will lead to outright ousting from the event with no exceptions.
2. The minimum width of the bot should be 15 cm.
3. The weight of the robot should not exceed 2 Kg's.
4. The potential difference between any two points on bot must not exceed 20 Volts.
5. The robot can be fully powered only electrically either through power adaptor or batteries.
6. The teams are requested not to use caster wheels as track may contain a bridge with gap in between.
7. The machine should be controlled by wireless remote controlled mechanism or wired one throughout the race.
8. If the machine is wired then the wire should remain slack under all circumstances during the competition. All the wires coming out of machine should be stacked as single unit. The wires must be properly insulated.
9. Use of LEGO™ kits is strictly prohibited and using any such kit will lead to disqualification of the team. The decision vis-à-vis the type and the category of components used by team will be the discretion of co-ordinator team without any appellate.
10. The upper limit for motor capacity is 500rpm.

Game Rules:

1. Every team will be given only one chance to run their machine on the track.
2. Timer will start when robot starts from the starting point.
3. There will be a time penalty if the robot touches any obstacle or the boundary of the track.

4. The robot should not damage any part of the arena.
5. There will be partial points based on the length covered, checkpoints cleared.
6. The robot will be judged on basis of (*in priority*):-
 - i. Time to complete the track.
 - ii. Number of checkpoints cleared.
7. For calculating points based on time lapsed, a threshold value will be set and revealed on the day of the event. The points awarded will be governed by the relation
 - i. $\text{Points} = (T_{\text{Threshold}} - T_{\text{Taken}}) * 10$
8. The judges' decision on the criteria of innovation and design cannot be competed.
9. Team members will be allowed only three times to touch or reset their robots position during the run. However, this will lead to a time penalty and timer will not stop during this course of action.
10. If the teams reset their robots position then they will have to start from the last checkpoint cleared.
11. During the Round, only maximum of two team members are allowed in the arena, one member will control the robot and other to guide it.
12. Each team should have its own programmers and components; no programmers or components will be made available by the coordinator during the event.

General Rules:

1. Each team can have maximum 5 members.
2. Any team that is not ready at the specified time will be scratched from the competition automatically.
3. Judges' and coordinators' decision shall be treated as final and binding on all.

The co-ordinators reserve the right to change any or all of the above mentioned rules as they deemed fit. Change in rules, if any, will be highlighted on the website and notified to the registered participants.

Co-ordinators-	
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