



Cross roads – rally race

India is the cradle of human race, the birthplace of human speech, the mother of history, the grandmother of legend and the great grandmother of traditions. Our most valuable and most constructive materials in the history of man are treasured up in India only.

Exploring this treasured heritage, you have to travel from Jammu & Kashmir, the native city of forest n mountains to the bottom most point of the jewel, Kanyakumari!

Exploring the black soil overcoming all hurdles, fetching the newly grown grains in Punjab, paying tribute to the Taj or covering the deepest point, Diamantina trench; whatever be the case you need to reach your final destination.

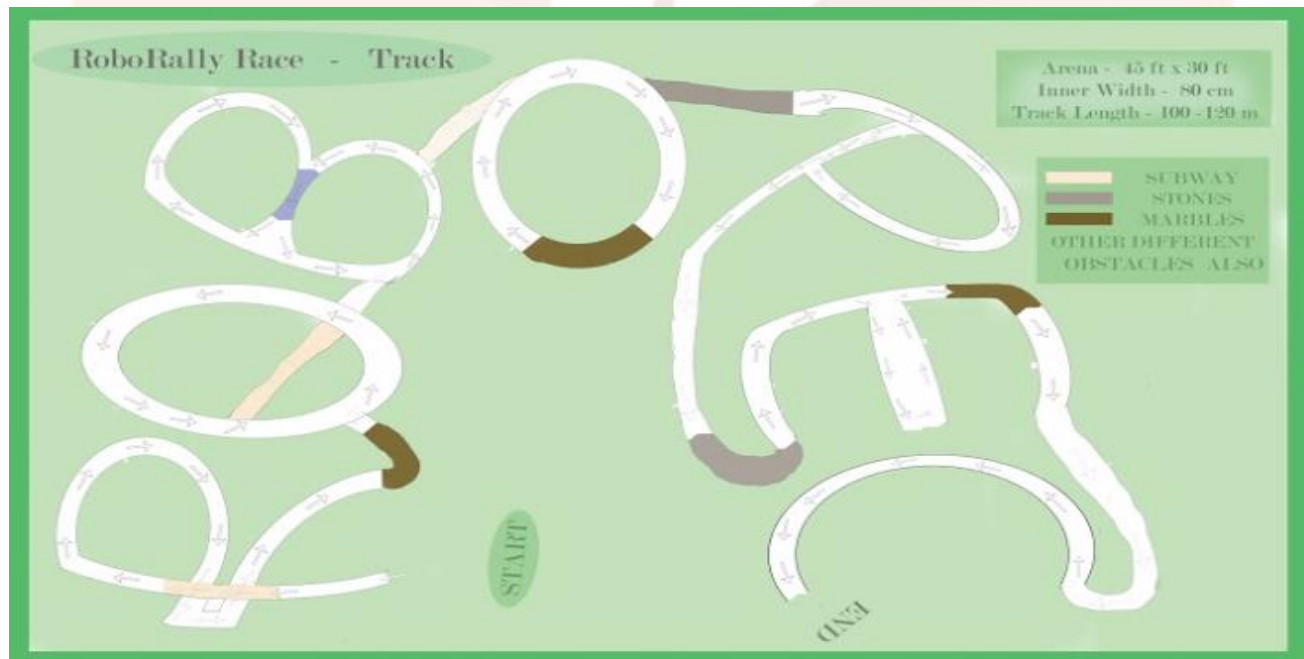
So, what are you waiting for

Ready - steady - go!!


Task

1. Teams must build a manually controlled robot which can traverse an arena having various obstacles.
2. The bot can be wired or wireless. In case the participants use wireless mechanism, they must use dual frequency remote/ Bluetooth.

Arena



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1. The width of the track is 40 centimeters.
2. There will be ramps with inclination of maximum 30 degrees.
3. Semi cylindrical shaped hurdles each of a maximum diameter of 30mm on the ramp.
4. Semi-cylindrical shaped speed breakers made from PVC pipes of maximum diameter 50mm.
5. Triangular shaped speed breaker of maximum height 30mm.
6. Certain areas of the arena will have grease, Pebbles River, valley, see-saw, rotating disk and pits.
7. The arena may contain obstacles to disrupt the path of the bot.
8. The arena will have various checkpoints which will be revealed on the spot.
9. The figures above show the sample arena and sample obstacles. The actual arena and the Obstacles at the competition will consist of alterations.

Gameplay

The gameplay consists of three rounds.

First round

1. In this round each team will get a chance to run their bot on the arena.
2. The teams will have to traverse the arena in the shortest possible time.
3. 50% of the number of teams that would apply having the shortest times will qualify for the next round.
4. Two teams will run simultaneously on the track, but it won't be a direct race between the two bots. Time will be noted separately and half of the teams will qualify for the next round.

Second round

1. The arena will be modified for this round and will be revealed on the spot.
2. Each of the qualifying teams will get a chance to run their bot in the arena.
3. 50% of these teams will be selected for the next round.

Third round

1. The arena will be modified for this round and will be revealed on the spot.
2. Each of the qualifying teams will get a chance to run their bot in the arena.
3. In case of a tie the times at various checkpoints will be considered.

Game Rules

1. Only one bot per team is allowed.
2. Only one team member is allowed to handle the bot after the start. In case of wired bots, a separate team member can be assigned to hold the wire.
3. At the beginning of the race, the bot will be placed at the starting point.
4. Race will only start when the organizer gives the signal.



5. The starting procedure of the bot should be simple and should not involve giving any manual force or impulse in any direction
6. In the first round the teams are allowed to take a maximum of 2 restarts and the bot has to start from the starting line.
7. In the second round the teams are allowed to take a maximum of 3 restart and the bot will start from the previous checkpoint.

Scoring and Penalties

1. The winner will be decided by the fastest time.
2. In case no team finishes the track the team that crosses the maximum number of checkpoints will be declared the winner.
3. In case of a tie the team crossing the checkpoint at the fastest time will be the winner.
4. Crossing the track limits will impose a penalty of 2 seconds in the first round and 5 seconds in the second round.
5. In case of wired bots each time the wire is found to be not slack, time penalty will be awarded and the judges may ask you to restart the bot from the starting point or the previous checkpoint if your bot has already cleared any checkpoint.

Robot Specification

1. The dimensions of the bot should be less than 25cm x 25cm x 25cm at all time during the event failing which the team will be disqualified from the competition.
2. The bot should be controlled manually.
3. Teams can use either wired or wireless control mechanisms. In case of wireless mechanism, it is mandatory to use a dual frequency remote.
4. There is no restriction the type of wireless technology being used i.e. you can use RF, Bluetooth, Zigbee or any other technology you find suitable.
5. In case of the wired bots, the length of the wire should be minimum 5 meters so that the wire remains slack at any instant of time.
6. The dimensions of the remote are not included in the size constraint of the bot.
7. Bot must have an on-board powers supply in any case i.e. the battery should be placed on the chassis of your bot.
8. Participants are not supposed to use any readymade Lego components. Violating this clause will lead to immediate disqualification of the team.
9. When using electric power supply, the potential difference between any two points must not exceed 24 V at any point of time during the game.
10. The bot should not separate or split into two or more units, i.e. it should be in a single unit.
11. The bot should not damage the track.



Team specification

A team may consist of a maximum of 4 members. Students from different educational institutes can form a team.

General rules

1. The teams must adhere to the spirit of healthy competition.
2. Organizers reserve the right to disqualify any team indulging in misbehavior or violating any rules.
3. Any team that is not ready at the specified time will be disqualified from the competition automatically.
4. The time measured by the organizers will be final and will be used for scoring the teams.
5. Time measured by any contestant by any means will not be accepted for scoring.
6. In case of any disputes/discrepancies, the organizers' decision will be final.
7. The organizers reserve the right to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.
8. Note that at any point of time, the latest information will be that which is on the website. The information provided in the pdf downloaded earlier may not be the latest. However, registered participants will be informed through mail about any such changes.

Note: - All students with a valid identity card of their respective educational institutes are eligible to participate in the event.

There might be minor changes in the arena at the time of actual gameplay.

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