ROBO RACE

Problem Statement:

Design and build a Wireless remote controlled All-Terrain Robot which can race against others in a given race track .

Robot Specifications:

1. **Kit**:

   - It must be SPARC ATV KIT (https://sproboticworks.com/shop/products/sparc-ranger-kit.html)

2. **Size:**

   - The robot at its maximum size (all retractable projections included) should fit into a box of dimensions 30cm x 30cm (L X B) and should have a maximum weight of 3 kg.

   - No restriction on Height of the robot.

   - A robot must not expand in size after a match begins, must not physically separate into pieces, and must remain a single centralized robot.

   - Robots violating these restrictions will be disqualified.

   - Robot measurements shall be done during the start of the competition.

3. **Control**:

   - Robots must be controlled manually using wireless controllers only (Bluetooth Board).

4. **Design**:

   - Only electrically powered actuators are allowed.
   - The power supply must be on-board.
   - A maximum voltage of 12V D.C. is allowed.
   - Use of any products other than SP Robotic Works is prohibited.
   - Parts that could break or damage the arena are not allowed.
   - Do not use parts that are intended to damage the arena. Normal crashes are not considered as intent to damage.

5. **Participants**:

   - No team formation is allowed, everyone must be individual players.
   - Participants are allowed to handle only one robot throughout the event. (Should not change the robot in between)
   - No changes in the robots are allowed during the game play.

6. **Game play:**

   - Each participant would be given 4 minutes' maximum to complete the race.
   - Participants exceeding the 4 minutes will not be allowed to continue the race.
   - Judges' decisions are final for filtering the participants and selecting the qualified candidate.
   - No form of claim is entertained during the progress of the event.
   - Judges' decisions are final under any circumstance.
   - Participants who argue with judges leads to disqualification
   - Participants who clock the fastest times will be the winner of the race.

7. **Arena Specifications**:

   - The actual arena will be displayed only at the venue.
   - Robots may use any shortcut it finds in the race course, but it must complete all the obstacles.
   - Different terrains like concrete, sand, soil, gravel, glass, wood, etc. will be used in the track.
   - There may be bridges, inclined planes, wedges, death wells, rotating platforms and many more surprise elements.

- Final aim is to reach the finish line within a challenging time.
- The actual arena may or may not have all the above mentioned elements.
- Apart from these, the arena may hold any other such contrivances which will be revealed only at the venue.

8. **Sample Arena:**

SAMPLE ARENA ONLY
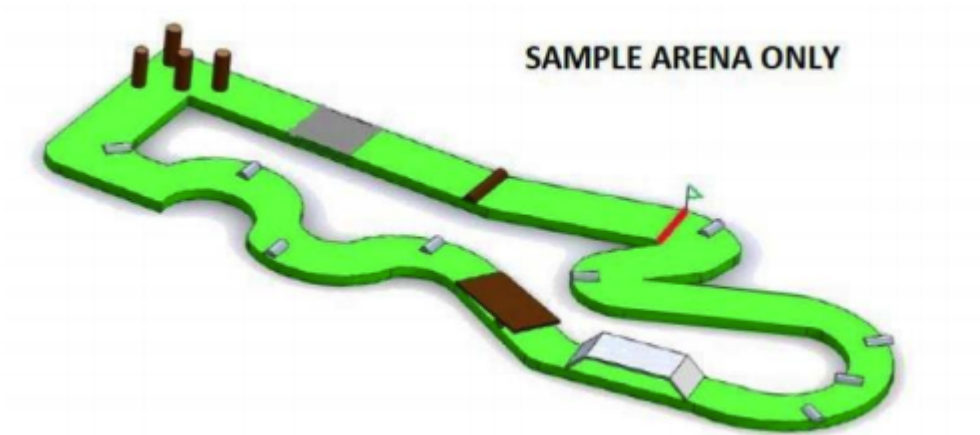
Important:

- No tolerance is allowed in any of the rule violations.
- Robots should remain within the specification mentioned above.
- No second chance will be given to any of the participants.