



THE ROBOTICS CLUB
Integrating Knowledge...

PUSHPAK



GREENIDHI'S ANNUAL TECHNICAL FEST

ROBOVEDA'25

EXPLORE THE UNWRITTEN LORE...



R U L E B O O K

PUSHPAK

1. GAME AND RULES:

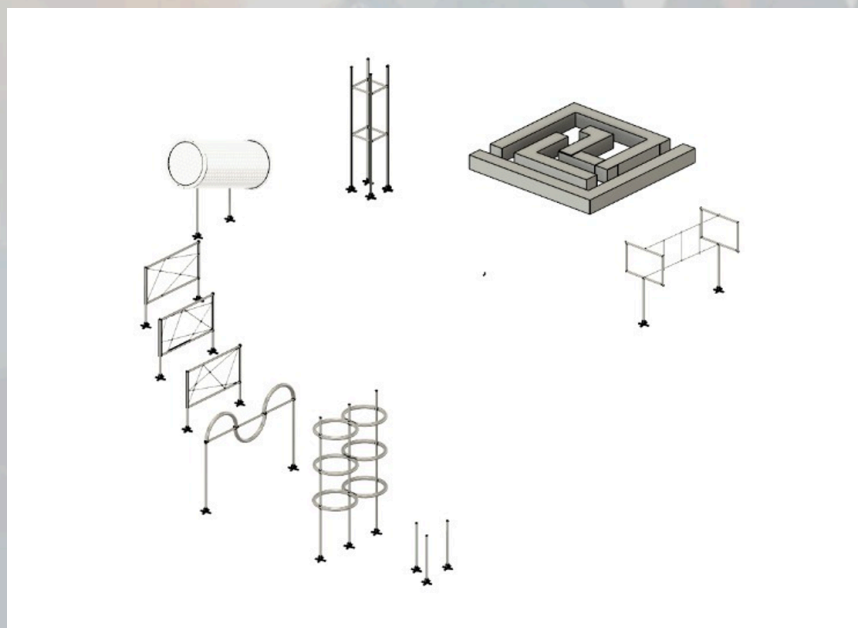
Having ideas is far different from applying those practically and proving oneself. The Roboveda 25 PUSHPAK event gives you a wonderful opportunity to showcase your talent. The program not only aims at drone technology, but the main aim is to encourage teams to come up with basic drones that need a push for further development.

1.1. PROBLEM STATEMENT

1.1.1. Design an aero vehicle (Quadcopter / Tricopter) to complete the given arena with minimal penalties, optimizing speed, accuracy, and rule compliance.

2. GAME FIELD AND OBJECTS:

2.1. ARENA



NOTE: The actual Arena may differ from this arena and dimensions may change.



www.roboveda.org



Sreenidhi Institute of Science and Technology, Yamnampet

3. TEAMS:

- 3.1. One team can have a maximum of 4 members.
- 3.2. Maximum of 2 members of a team are allowed to stay around the arena (one for controlling and one for assisting (optional)) and a team is allowed to play with one robot only.
- 3.3. Members of different institutions can form a team.
- 3.4. Pushpak is an open event. There is no academic criteria to participate.

4. ROBOTS:

4.1. ROBOT SPECIFICATIONS

- 4.1.1. Maximum of 4 motors will be allowed.
- 4.1.2. Only electrical motors are allowed.
- 4.1.3. Use of stabilization board and programming assistance in receivers is not allowed.
- 4.1.4. A robot is allowed to participate only once in the event. The robot can participate once again with the same team if it satisfies the following conditions:
 - The team has to register once again with a modified old robot/new robot before registrations close and a maximum of 3 registrations will be accepted.
 - Propellers or motors or chassis materials should be changed to consider an old robot as a new one.
- 4.1.5. Lego kits are not allowed.
- 4.1.6. No metal propellers should be used.
- 4.1.7. No practice flights will be allowed.

4.2 ROBOT DIMENSIONS

- 4.2.1 Propeller diameter should not be greater than 10 inches.
- 4.2.2. The diameter of the hurdles will be around 1 meter so it is suggested for the participants to bring quadcopters of diameter below 80 cm.

4.3. POWER SUPPLY FOR ROBOTS

- 4.3.1. Battery weight should not be more than 350gm.



4.3.2. Voltage between two nodes of the battery should not exceed $15.5 \pm 3\%$ Volts.

4.3.3. No external power supply will be provided at the time of the event.

5. SAFETY:

5.1. All the required accessories should be brought by the participants.

5.2. Team RoboVeda is not responsible for any damage to the robot.

5.3. Technical assistance will not be provided by coordinators or technical deputies.

6. THE COMPETITION AND MATCHES: There are two rounds

I. Qualifying Round

II. Final Round

6.1. QUALIFYING ROUND

6.1.1. A qualification round will be there on the first day of the event.

6.1.2. Level 1 rankings will be based on total completion time, including penalties if any. Top scorers will move forward to Level 2.

6.1.3. Participants who successfully complete the qualifying round arena will only be advanced to the final round.

6.1.4. There will be a final round for participants qualified in the qualification round.

6.2. FINAL ROUND

6.2.1. Rules of the final round will be disclosed by heads and coordinators on the day of conduction.

6.2.2. The robot participating in the final round should be the same one that participated in the qualifying round. Modifications will be allowed for the robot (only if previously used parts are damaged) in between the rounds only if the following conditions are satisfied :

- The participant must show both the damaged part of the robot (propellers, chassis, motors) and the replaced part of the robot (propellers, chassis, motors) on the day of the final round.
- Heads or coordinators of the event will allow the modified robot only if the damaged part and replacement part are the same/similar.



7. COMPETITION RULES:

7.1. TECHNICAL TIMEOUTS

- 7.1.1. A technical timeout of 1 minute can be taken by a team.
- 7.1.2. After the finishing of the technical timeout, the timer will start again and will not be stopped under any circumstances.
- 7.1.3. No technical assistance will be provided by the event coordinators or heads during the event.

7.2. SCORING & PENALTIES

- 7.2.1. Penalties are imposed if the drone touches the border of the track or if skips or replacements are chosen. Each penalty adds extra time to the total time. The time added for each penalty shall be declared on the day of the event.
- 7.2.2. Scoring schema (including penalties) will be disclosed on the event day by heads and coordinators.

8. DISQUALIFICATION:

- 8.1. If a participant does not comply with the rules of the event, the robot will be disqualified from the event.
- 8.2. Robots should not damage any part of the arena, it will be disqualified.
- 8.3. Misbehavior of any kind will not be tolerated and the team will be subjected to disqualification from Roboveda.
- 8.4. Usage of commercial drones is not allowed.

9. COMPETITORS AND BEHAVIORAL RULES:

- 9.1. All participants will be given a Certificate of Participation.
- 9.2. Winners and runners will be given a Certificate of Merit.
- 9.3. All participants must bring both a college ID card and an event ID card.
- 9.4. Participants are allowed to participate once again if they satisfy rule 4.1.4.
- 9.5. Participants are not allowed to use their own Stop watches.
- 9.6. Team Roboveda is not responsible for any kind of damage to your robot.
- 9.7. We request the participants not to assume anything that is not mentioned in the document without contacting the Coordinators or Technical team.



9.8. 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 suggest having a copy of this rule book handy during the event.

9.9. In case of any discrepancies, the decision of co-ordinators and heads shall be final and no further argument will be entertained.

9.10. 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.

9.11. Any kind of misbehavior will not be tolerated and will lead to disqualification of the team.

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

9.13. In unforeseen circumstances, Team Roboveda abides by the decision of the Institution regarding the conductance of the event. Only registered participants will be informed about the change in event dates or cancellations. In that case, the registration fee will be refunded.

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