



ACROBATIC FLYERS

Event Structure:

Format of Competition:

The competition requires the participants to design, fabricate and fly a MultiRotor Drone to perform a set of maneuvers. The team with the maximum number of points and who qualify all the eligibility criteria, will be declared as winners.

Services provided:

Electric Sockets (220-230V) will be provided for charging the batteries. The payload will not be provided by us.

Note: The participants are strongly advised to bring their own toolkit to repair or alter their model in case of any such necessity during the competition. You will not be provided with any such tools by us.

Model Specifications:

- The maximum dimension of the vehicle (excluding the propellers) should be lesser than 50cm and greater than 25cm.
- Metal Propellers are not allowed.
- Any material can be used for construction.
- Arduino and other boards can be directly used. You may or may not use pre-programmed boards.
- Exchanging of models is strictly not allowed. Each team must have its own model.

- Throughout the event, in all the attempts only one model must be used.
- Propeller diameter should not be greater than 10 inch.
- Battery weight should not be more than 400gm.
- Only electrical motors are allowed. The use of IC engines or any other means of providing thrust is prohibited.

Problem Statement:

The competition consists of only one round. Each team would get 2 attempts in the round. A team's best score of the 2 rounds would be considered for evaluation. The round would be divided into 2 halves, with each team getting a single attempt in each half.

MANEUVERS:

You have a total of 3 minutes (180 seconds) to complete the following maneuvers.

- Take-off your drone with a payload, which can be as much as your drone can carry. Points will be proportional to the weight of the payload.
- The payload should not be an integral part of the drone, i.e. the drone should fly even without the payload.
- Hover your drone over a fixed spot in the arena for not less than 10 seconds.
- Moving on, you have to land on 5 discrete set of circles of different diameters in a definite order. Each time you touch the ground anywhere, it will be counted as an attempted landing and you'll have to land to the other circle. So in all, you can land only 5 times in this part of the arena.
- Points will be awarded only if your drone lands completely inside the circles.
- Return to the landing zone, and land your drone on the respective lines drawn for your drone. as close as possible to the landing spot.

Team structure:

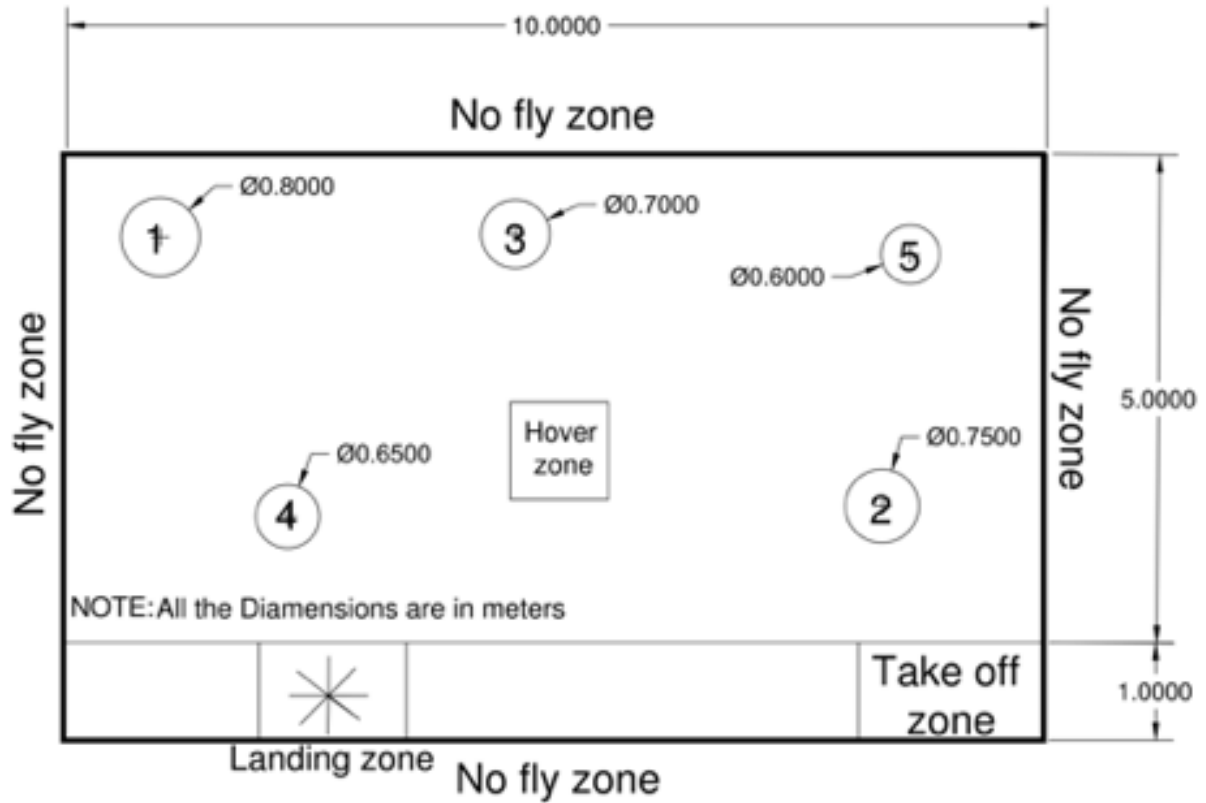
- There can be a maximum of 5 members and a minimum of 1 member in a team.
- Members of a team may be from the same institution or from a different institution.

- Any number of teams can participate from one institution.
- Each team must have a drone pilot, who would be flying the drone.
- Only students can participate. Professionals are not allowed.
- A team member can't be a part of more than one team.

General Guidelines:

- The use of 2.4 GHz radio is required for all aircraft competing in the competition. If the participants want to use any other frequency, they will have to inform the organizers in advance.
- A limited number of 2.4 GHz radios will be available with the organizers for use by the teams. Teams who do not have access to radios can inform the organizers in advance to request use of these radios.
- Receivers installed in the aircraft have to be in 'receiver mode only'.
- All the systems (Servos, motor, etc.) will be checked by organizers for functionality before the competition. If found not working, teams will be dismissed from the competition.
- Pilot can position himself at any point in the arena to fly the aircraft during the rounds.
- Metal propellers are not allowed.
- The models can have powered take-off with a landing gear or can be launched manually by a person standing at ground level.
- Plane should be built from scratch and not purchased models.
- A team member can't be a part of more than one team.
- Teams can participate in more than one zonal event if they are not qualified for the finals already.
- Teams that claimed reimbursement in one zonal event cannot claim in any other zonal event in case they are participating in more than one zonal event.
- New members cannot be added to the teams who have been selected at Zonals to reach the Final Round.
- Bring your college/student I-Card at the time of competition.
- Any of the above-mentioned rules, if found violated, teams would not be allowed to participate in the competition.

Arena::



For Enquires:

Event Coordinator:

Prof. Harjot Singh Gill

Student Coordinator:

Kuldeep (+91-9996383112)

Gaurav (+91-9467367460)