FLIGHT 2024

MADRAS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF AEROSPACE ENGINEERING
ASSOCIATION OF AERONAUTICAL ENGINEERS

RC PLANE RACING EVENT

-In partnership with Jet Aerospace

March 17

Design Constraints:

▪ T/W <=0.75 without payload (If excess thrust is measured, it will be neutralized by adding weight below the aircraft at centre of gravity)

▪ Propeller diameter should not be greater than 13 inches

▪ Total wingspan should be a maximum of 1.5 m

▪ Only electrical motors are allowed. The use of IC engines or any other means of providing thrust is prohibited.

▪ Use of gyroscopes (gyros) and programming assistance in receivers is prohibited

Flight Constraints:

ROUND 1:

The evaluation of an aircraft's design proficiency will be centered on its ability to perform seamless take-offs and landings on a flat surface. Additionally, attention will be given to factors such as stability and control, ensuring that the team's aircraft demonstrate a well-balanced and controlled ascent and descent for a comprehensive assessment of their design excellence.

Teams will receive grades based on the smoothness and safety of their aircraft's take-off and landing processes.

ROUND 2:

In this round, participants are required to make their aircraft climb for 15-20 seconds. After this, they must perform a dead stick flight by turning off the engine (throttle=0 or Gliding). The aircraft however can be maneuvered while it is gliding. From the starting point of gliding, the spiral down is carried off.

The grades of the teams are provided based on the number of spirals performed by the aircraft.

ROUND 3:

Flying might not be all plain sailing, but the fun of it is worth the price. After two preliminary rounds, the final round became the highlight of

the competition. In this ultimate round, each team had to navigate their RC planes through a course from a designated starting point to a specific ending point.

The challenge was not just about speed but also about precision and control as they maneuvered their planes through the course. To measure their performance accurately, stopwatches were employed to record the time taken by each team to complete the race.

The teams that demonstrated the best combination of speed and accuracy, earning the shortest recorded times, were selected to advance based on their performance in the final round. The utilization of specific starting and ending points, along with the precision of stopwatches, added an extra layer of excitement to the event.

General Rules:

1. 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.

2. Receivers installed in the aircraft must be in 'receiver mode only'.

3. 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.

4. The pilot can position himself at any point in the arena to fly the aircraft during the rounds.

5. In view of stringent safety requirements, if a pilot flies out of the designated flying zone which includes overhead of the event organizing

and control section, as mentioned at the venue, he/ she is disqualified and has to immediately turn back and land at any cost.

6. Teams are suggested to carry additional components (motors, batteries, propellers etc.) as needed to avoid last minute surprises at the venue. You will lose time/ attempt if you are not ready at the time of your turn.

7. Metal propellers are not allowed.

8. Pilots should fly only using a transmitter and receiver. FPV or any other devices that assist in flying are not allowed

9. The models can have powered take-off with a landing gear or can be launched manually by a person standing at ground level.

10. Aircraft should be built from scratch by the participants of the team and should not be a purchased model.

11. A team member can't be a part of more than one team.

12. Any of the above-mentioned rules, if found violated, teams would not be allowed to participate in the competition.

Decisions of the Judges and Organizers will be final and binding for all

PARTICIPATION CERTIFICATES WILL BE PROVIDED TO ALL

REGISTRATION FEE   : INR 1200/-

PRIZES POOL   : INR 25000/-

TEAM MEMBERS LIMIT : 1-4

For any queries, feel free to contact:

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