



RC Plane

INTRODUCTION

The RC Plane Challenge is designed to test participants' skills in aircraft design, flight control, and maneuvering. Teams must build and operate a remote-controlled plane capable of stable flight, precise navigation, and accurate mission execution within the defined arena and challenge constraints.

PROBLEM STATEMENT

Participating teams must design and operate a fully functional Remote-Controlled (RC) aircraft that satisfies the prescribed technical constraints and successfully completes the challenge rounds.

The event is divided into two rounds:

- Round 1 - Design Report Submission
- Round 2 - Flight Mission Challenge

Mohammed Ali

Outreach Head
ali@dronotics.in

Vaibhav Katariya

Head Events
vaibhav@dronotics.in

Yasharth Singh

Management Head
yasharth@dronotics.in

Rakshit Suneja

Creative Head
rakshit@dronotics.in



STAGE 1: Design Report Submission

Teams are required to submit a detailed design report of their RC aircraft in PDF format.

The report must include:

- Aircraft design and dimensions
- Wingspan and fuselage specifications
- Material details
- Motor and propeller configuration
- Battery specifications
- Total weight

Technical Constraints

- Maximum wingspan: 150 cm
- Maximum battery allowed: 3S / 11.1V LiPo
- Single motor configuration only
- Maximum propeller size: 12 inches
- Use of gyroscope, accelerometer, autopilot, GPS hold, or any automated assistance system is strictly prohibited
- Aircraft must be completely manual RC controlled

Rules for Abstract Submission

Cover Page Details

The cover page of the submission must include the following details:

Team Leader Details

Team Name.

College / Institute Name

Email ID

Team Leader Name

Year of Study

Phone Number

Other Team Members

- Name(s) of all team members



File Naming Convention:

The file must be submitted in the following format:

<TeamName>-<LeaderName>-<CompetitionName>.pdf

Example:

CCU-YashAggarwal-RCPlaneChallenge.pdf

Submission Email

The abstract/design report must be mailed to:

dronoticsjiit128@gmail.com

Important Note

- Only PDF format submissions will be accepted
- Files must not be corrupted or password-protected
- Any submission not following the naming convention may be rejected

STAGE 2: Flight Mission Challenge

This round consists of two parts: Payload Dropping and Gliding

A spherical payload (for example, a golf ball) will be provided, which must be dropped within the designated target area.

- Dropping height should be between 5 to 10 meters
- Takeoff may be performed either from the runway or by hand launch
- The target zone will consist of five concentric circles of different radii, similar to an archery target
- Different points will be awarded based on the accuracy of payload placement
- Evaluation will be based on drop accuracy and total mission completion time



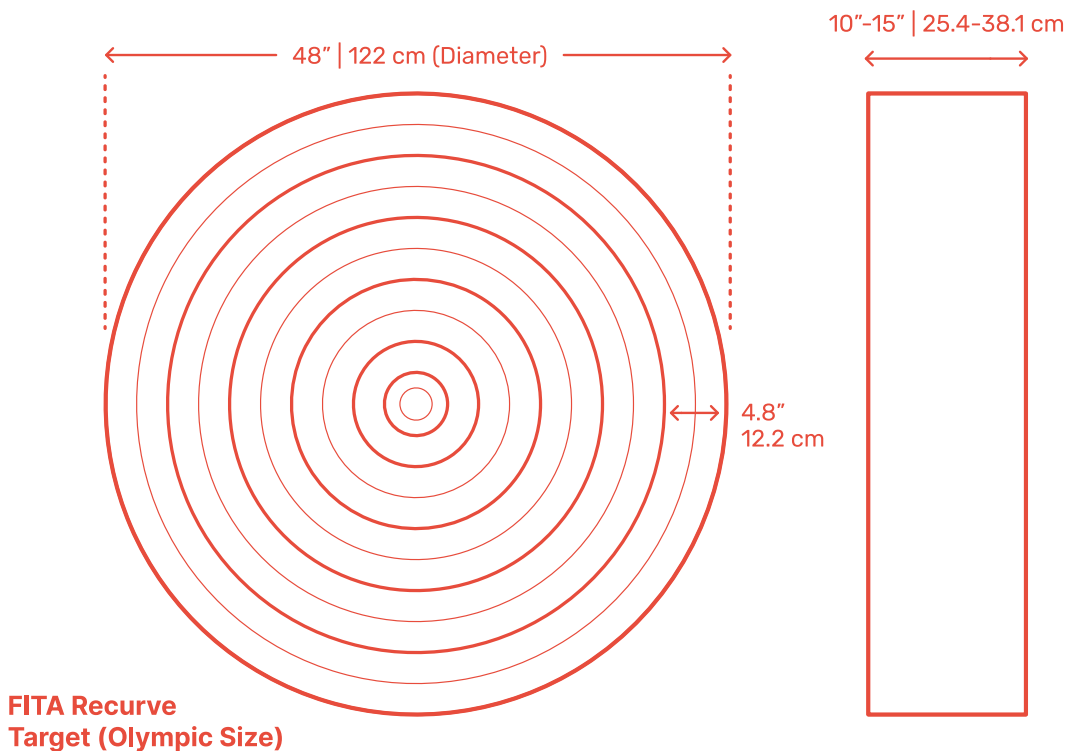
After successfully dropping the payload, the team must climb the aircraft vertically for 10 seconds, after which the throttle must be reduced to zero and the aircraft must enter glide mode.

The aircraft may be steered during glide mode, with no restriction on the trajectory followed. The objective is to return and land as close as possible to the initial starting position.

PENALTIES

If the aircraft fails to glide back to the initial position, 0.5 points per meter from the starting point will be deducted.

Target Image



*Archery board dimension may vary, following image may subject to change

Note: The organizers reserve all rights to change any or all of the above rules.