Ardhara-The Airmate

Registration fees-Rs.400

Problem Statement

To design and fabricate a RC plane (no Readymade Planes are allowed) and perform a set of maneuvers.

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. 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.

3. Receivers installed in the aircraft have to be in 'receiver mode only'

4. 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.

5. Pilot can position himself at any point in the arena to fly the aircraft during the rounds

6. Metal propellers are not allowed

7. Propellers, Motors, ESC, Servos, Receiver and Transmitter are allowed as off-the-shelf items. Participants will need to bring their aircraft and all necessary equipment to this venue. The arena will be an open ground.

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

9. Plane should be built from scratch and not purchased models

10. A team member can’t be a part of more than one team at any one given

competition

11. The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.

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

Format of the Competition

The best measure of the design of an aircraft can be done by climb and gliding time. To examine this, participants have to climb for 20 seconds. After this, they need to perform a dead stick flight (throttle=0 or Gliding) and land at a specified location. The plane however can be maneuvered while its gliding.

The teams will be graded based on

a. Smooth Climb (35%)

b. Glide Time (65%)

Final score = smooth climb (out of 35) + 0.65*2*glide time (in sec) Smooth climb will be decided by the judges.

Plane Specification

1. **T/W =0.75** (if excess thrust is found, it will be neutralized by adding weight below the plane at center of gravity).

2. Propeller diameter should not be greater than 10 inches.

3. Battery weight should not be more than 200 gm.

4. The use of IC engines is prohibited. Only electrical motors are allowed.

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

6. One of the team members should fly the aircraft and another should call the stunts as they are performed (just before).

Team Specification

A team may consist of a maximum of 4 participants. Students from different educational institutes can form a team. Professionals are not allowed (Only students can participate).

Certificate Policy

Certificate of excellence will be awarded to the top 2 winners.

Certificates of Participation will be given to all the participants, but not to the teams which get disqualified due to disobeying any of the competition rules.