



Cruise Control

Pool Event, Open-To-All

Points: 35

Event is open to **FIRST** and **SECOND** yearites only.

Problem Statement:

Design, fabricate and fly a wireless remote controlled aircraft (using electric motors only), which has all three degrees of freedom including roll, pitch and yaw and that can complete a specified task.

Rules and Regulations:

**** It is a pool event and each pool has to make 2 aircrafts. The points of both the aircrafts will be cumulatively added. The teams will have to use 2 separate models each time.**

Model Specifications:

An aircraft is defined as an object that has the four forces of flight, namely lift, drag, weight (gravity) and thrust due to propeller acting on it at any point of time.

- *The aero model must be hand-made.
- *There is no limitation on the size of the plane.
- *The Aero model must weigh less than 1 kg.
- *The model must be hand launched.
- *Use of landing gear is prohibited.

Only electrical motors are allowed which will be same for each pool.

The potential difference, between any two points on the machine, must be lower than or equal to 12.6V at any point of time during the competition.

The participants are free to use the materials of their choice. However the use of Balsa wood or foam (sun board) or sun pack (coroplast) or thermocole is advisable. Foam is light, easy to handle and fabricate the aircraft making it the best choice.

Participants must make all parts of the aircraft themselves. Usage of Ready-to-Fly (RTF) and Almost-Ready-to-Fly (ARF) kits is strictly prohibited. Use of readymade actuators/motors, remote controls and propellers is allowed.

Use of gyroscopes (gyros) is prohibited.

If anyone is found not following above rules, they will be disqualified. Use of CF rods allowed for strengthening.



Judging Criteria:

Designing of an aircraft is a very important part of this competition. The flight tasks in competition include good controls and speed. So your aircraft should be such that it can perform the given tasks effectively.

The tasks for the competition are:

Take off and safe landing.

****Before the start of the event for each pool the coordinators will trim the controls of the aircrafts which will be verified by the respective flier and he has to land the aircraft within 1 min. After the verification of the controls by the flier the actual event will start.**

Round 1 :

- Each flier will have to take the plane to the maximum possible height within the first 20 sec after the take-off.
- After 20 sec. the throttle will have to be cut off by the flier himself. **[Not doing so will lead to the disqualification].**
- After throttle has been cut -off the "GLIDING TIME" of the plane will be noted.
- Landing has to be done safely and only on the "Airstrip" not on the grass field, then **+5 sec** will be rewarded. If the plane lands on the grass field "SAFELY" then **+5sec will be not be given.**
- Crash landing will invite a penalty of **-10 sec.**

NOTE:-

1. Similar rules will be followed for the 2nd aircraft from each pool.
2. Each pool can have either one or 2 separate fliers for the 2 planes.
3. If, at any point of time coordinators feel that the aircraft is going out of control or out of the airstrip then the transmitter will be immediately taken from the flier and clock will be stopped. The time only upto that point will be considered.

Note: In case of any disputes, the decision of the coordinators would be final and binding to all.

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In case of any doubt, contact the secretary of your hall or any of us.