

AEROMODELLING EVENT

General Guidelines

1. The use of 2.4 GHz radio is required for all aircraft competing in the competition. No other frequencies are allowed.
2. No interchanging of receivers or transmitter from plane after the inspection of the plane.
3. Electronics used in the plane will be completely shown functional during the inspection. The team won't be allowed to fly without passing the inspection.
4. Pilot can position himself at any point in the arena to fly the aircraft during the rounds.
5. Metal propellers are not allowed.
6. The models should consist a landing gear.
7. Plane should be built from scratch and not purchased models.
8. A team member can't be a part of more than one team.

9. Bring your college/student Identity Card at the time of competition. Professional flyers are not allowed to participate. (Age limit - 25 and below)
10. Any of the above mentioned rules, if found violated, teams would not be allowed to participate in the competition and registration amount will not be reimbursed.

- **Bonus Points**

Design Report (100 points)

Reports with the following requirements are entertained:

- Team/School name on the cover page
- Reports must be one-half line spacing with 12 Times New Roman font
 - Executive Summary
 - Management Summary
 - Conceptual Design Approach
 - Manufacturing Plan
 - Bibliography

- Maximum number of pages is 15, exceeding which will be subjected to **penalty of 10 pts.**
- Report should be sent in PDF format to the below mail address
aeromodelling@aerophilia.com
- Deadline: January 25th 2018
(Reports must strictly adhere to the above requirements, failing which the reports will not be considered for bonus)
- **Design Constraints:**
 1. The maximum length of the wing should be equal or less than 1250 mm.
 2. Propeller diameter should not be greater than 10 inches.
 3. Battery used should be less than or equal to 1300 mAh and Less than or equal to 50 C discharge.

4. Only Single electrical motors are allowed. The use of IC engines or any other means of providing thrust is prohibited.
5. Use of gyroscopes (gyros) and programming assistance in receivers is prohibited.
6. Usage of Closed wing is prohibited.
7. All the above constraints will be cross checked during inspection.

- **Inspection:**

Tech data sheet will be provided for the inspection.
Inspection have to be finished before the qualifying round.

- **Qualifying round:**

Take-off within the runway, take a 360 deg turn and smooth landing inside the runway.

Day 1: Objective – Center of Gravity

- Quick take-off within the runway – 10 pts

Eg: If the plane take-off within slot A, It can avail full 10 pts.

If in slot B, can avail 8 pts and so on.

(5 meters each slot and points are distributed as shown below in Figure-1)

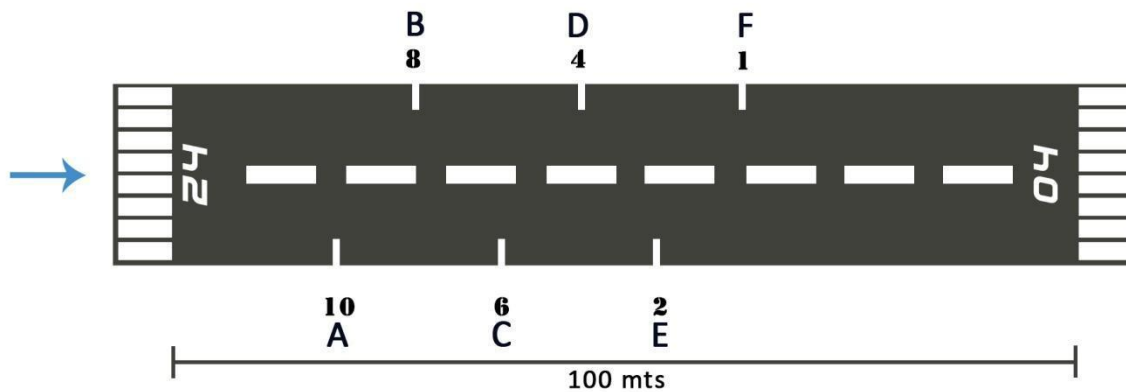
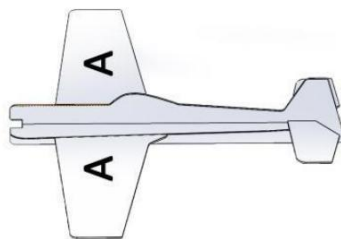
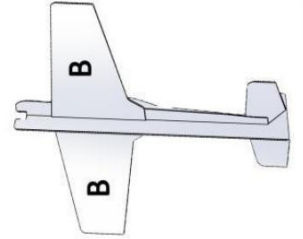


Figure-1

- Facing SIDE-A , SIDE B with reference to the plane -
10pts each



SIDE A



SIDE B

- Inverted flight with 360 deg turn – 20 pts
- Vertical up & vertical down – 10 pts each
- Shortest distance landing – 15 pts

(5 meters each slot and points are distributed as shown below in Figure-2)

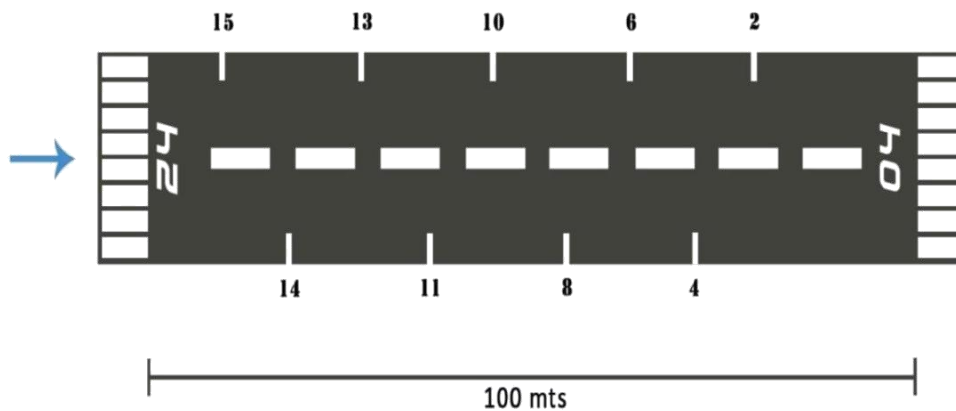


Figure-2

- Overall duration – 4 minutes

Total Score – 85

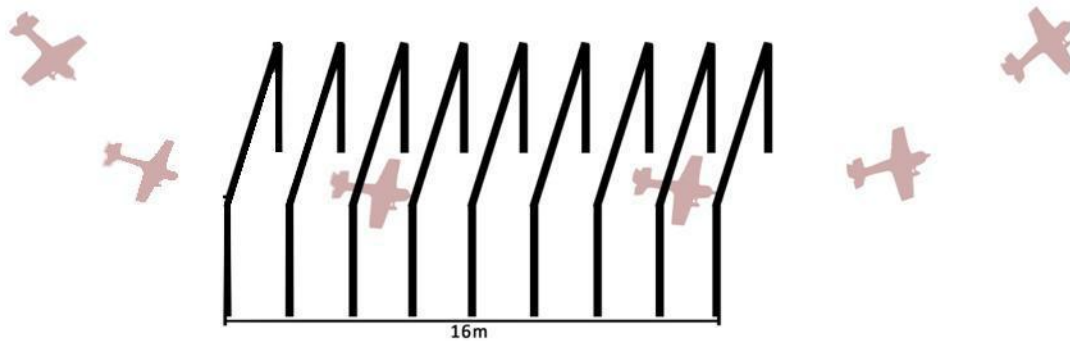
NOTE: The above tasks can be performed in any order excluding the take-off and landing.

Any crash landing, the plane should be in flying condition and should repeat the inspection.

Day 2: Objective 1- Flight

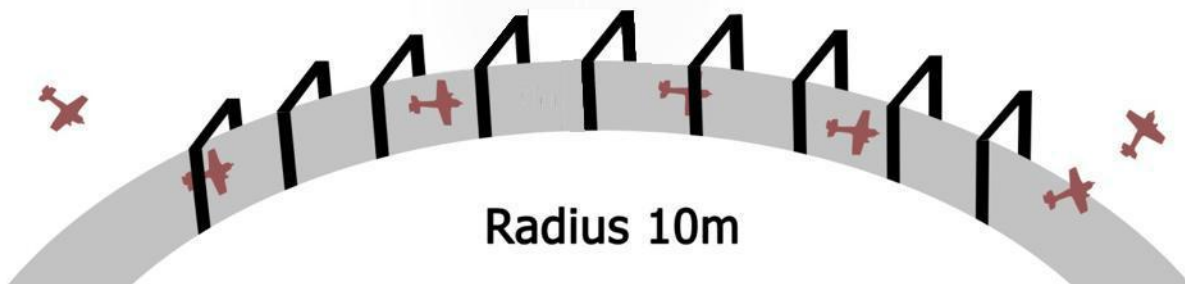
- Take-off within runway – 10 pts
- Clear all the hurdles as shown below

I. Hurdle Flight- 15 pts



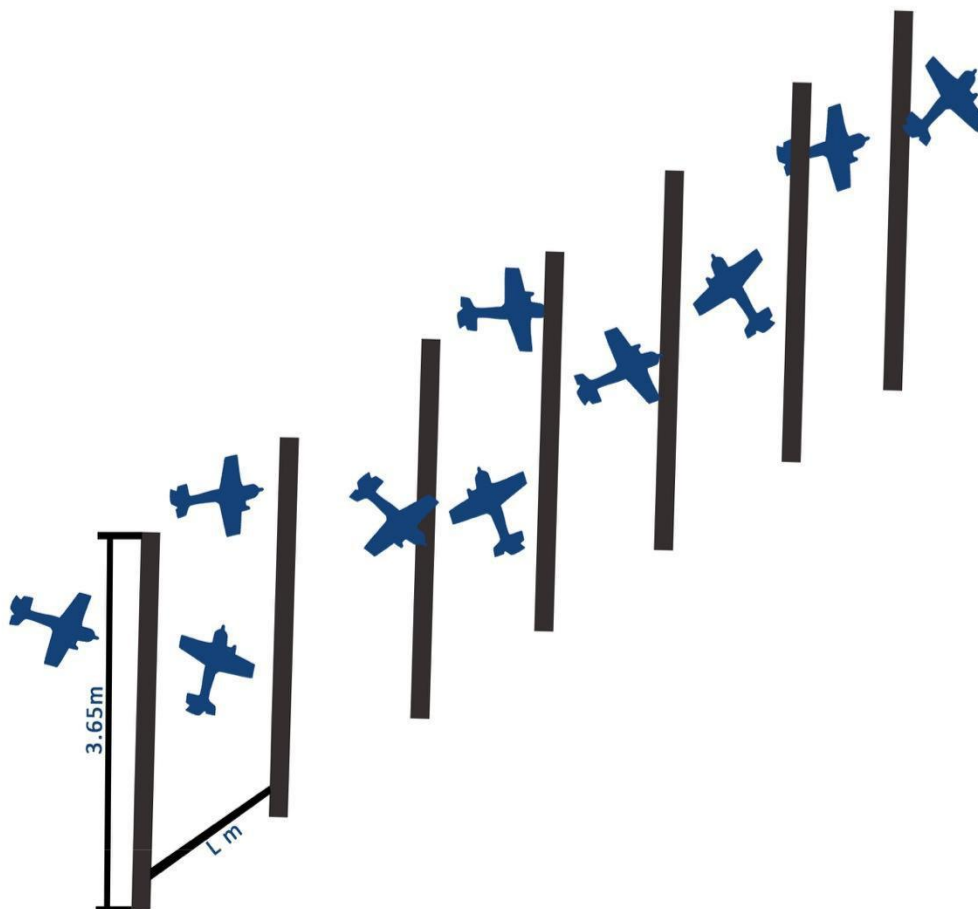
- Height of each pole is 2.5 meters. lateral distance between each pole is 4meter and longitudinal distance between poles is 3 meters.

II. Pole Flight- 20 pts



- Height of each pole is 3.65 meters and the distance between each pole is 5 meters.

III. Zig-Zag Flight- 25 pts



- The distance between the poles is not less than 5 meters.

- Landing inside runway – 15 pts.

NOTE: Any crash landing, plane should be flying condition and should repeat the inspection.

- Overall duration- 5mins
Total Score -85

Objective 2- Aerodynamics

- Take-off inside the runway – 10 pts

Payload lifting:

- Carry the parasitic plane which will be provided by the organizers and take a 360 deg turn.

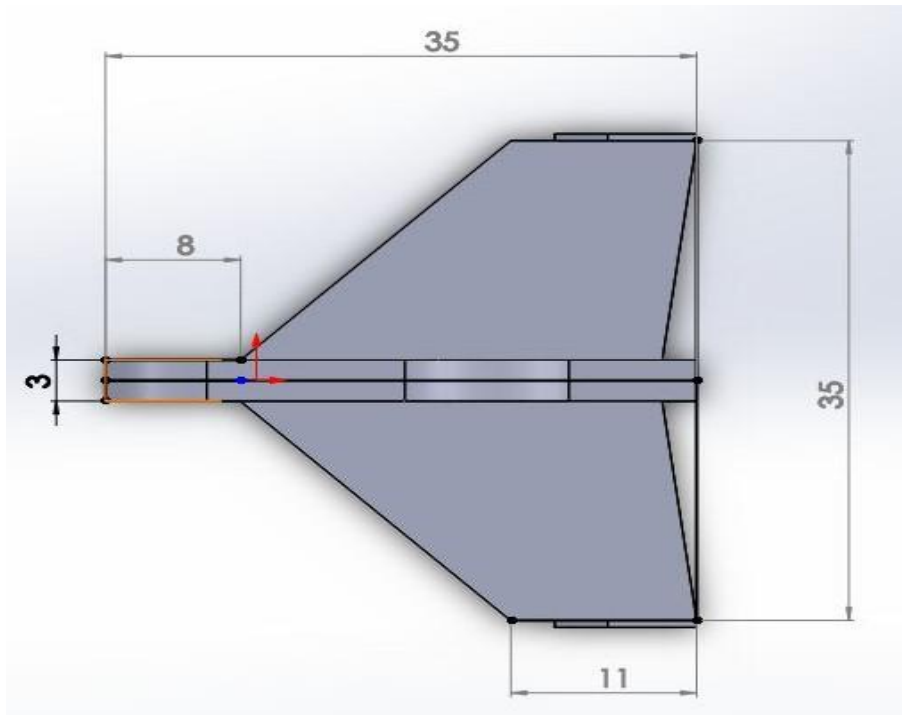


Figure: Parasitic plane configuration

- All dimensions are in centimeters.
- Flyers are allowed to choose any one payload of the parasitic plane among the following list

Parasitic plane:

- 500 grams - 35pts
- 450 grams - 30pts

- 400 grams - 25pts
- 350 grams – 20pts
- 300 grams- 15 pts
- 250 grams- 12.5pts
- 200 grams -10 pts
- 150 grams- 7.5
- 100 grams-5pts

The fixing Mechanism of Parasitic Plane has to be done by the Team Themselves.

- Landing inside runway – 15pts
- (Any crash landing, plane should be in flying condition and take a 360 deg turn to avail landing points)
- Duration – 3mins
 - Maximum Score- 60



NOTE:

- Organizers are not responsible for any environmental conditions.
- Decisions taken by the judges are final.
- Pilot cannot be provided.

Cash prize worth 1,70,000/-

1st place 75,000/-

2nd place 50,000/-

3rd place 25,000/-

Consolation Prizes worth : 20,000/-



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THANK YOU