



# FLIGHT

**MADRAS INSTITUTE OF TECHNOLOGY  
ASSOCIATION OF AERONAUTICAL ENGINEERS  
FLIGHT'19**

**MARCH 2,2019**

**DAY 2 EVENTS:**

**RC PLANE RULES**

- Number of members per team is 4
- RC plane has to be built from scratch and no professional kits are allowed
- Participants should submit their basic design specifications in an A4 sheet paper of which should necessarily includes
  - Weight of aircraft
  - Thrust to weight ratio
  - Aspect ratio
  - Propeller diameter used
  - Battery weight
- Manual control is only allowed and use of any flight controller is not allowed.

**DESIGN CONSTRAINTS**

- Maximum weight is limited to less than 3 kg.
- Only electric motor-powered vehicle is allowed which includes ducted fan. Use of IC engines is not allowed.
- Thrust to weight ratio should not exceed 0.8.
- Plane design should include dropping mechanism. V.
- Maximum aspect ratio limited to 8.
- Maximum wing span limited to 1.9m.
- Battery weight limited to 15% of total aircraft weight.
- Propeller length limited to less than 12 inches depending on previous constraints.

## **FLIGHT CONSTRAINTS**

- Take of run limited to 80m max
- Maximum flight time allowed for each contestant is 20 minutes or less up to 10 minutes depending on number of contestants and event duration.
- After 15 seconds of take-off, a climb time of 20 seconds is allotted for each contestants and contestants can climb up to their flight close to ground level.
- No throttle change is allowed during glides phase. In this phase contestants will be credited based on time in air during glide before aircraft reaches approx. 5m close to ground.
- Pilot should fly aircraft through specified poles placed 3m apart.
- After these rounds selected contestants can perform separate additional manoeuvres to score additional points.

Time limit for glide flight per contestant (max)	: 10 min
Time limit for flight through pole (Number of attempts not limited within 5 min)	: 5 min
Time for additional manoeuvres	: 5 min
Total	: 20 min

### **Coordinator**

Yuvaraj R

9751997450

Price worth- 15k