

Faculty of Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
&
MECHANICAL ASSOCIATION OF CHRISTITES

ORGANIZES

Two Days Workshop on Sphere Drone 09-10, Sep 2015

Dates: 09th Sep – 10th Sep, 2015

Venue: Faculty of Engineering, Kengeri Campus

Time: 9am- 4.30 pm

Event started by welcome speech by Professor Niranjana.S.J

Trainers: Mr. Dattatreya and Mr. Bheru from AeroTriX Skyfi Labs.

About AeroTriX: AeroTriX is India's biggest Aeromodelling workshop provider. AeroTriX courses are officially a part of IIT Delhi syllabus and IIT Kanpur orientation programs. It is a venture by IIT Kanpur alumni and funded by the Chennai Angels and Spark Capital.



Welcome Speech by Prof. Niranjana S.J

The session started with a brief introduction to the world of Aerospace. The instructors then explained about the theory behind Airfoil, Centre of Gravity, Angle of Attack, Surface Area of a Propeller, BLDC Motor Specifications, its RPM, Maximum Power and Maximum Load.

Then the session moved towards a bit of mathematics, with the calculation for Propeller Diameter, Average Control Velocity, Thrust required by the Motor, Area required to produce the Thrust, Centre of Gravity, Aerodynamic Centre and Average Exit Velocity.

The practical session began with the cutting of Blue Cardboard with given dimensions and mounting the Electronic Components. The main components of the Sphere Drone were, Motor (130gm), Battery (1200mAh, 81gm), Electronic Speed Controller (15gm) and Blue Cardboard (9gm). The total weight of the sphere drone was 400gm and its thrust was 900gm. The Specifications of the BLDC Motor used were, Maximum Power = 430W, Maximum Current = 30A and RPM = 1000KV.



The Practical Sessions

117 students, from various departments of the Faculty of Engineering, took part in the workshop and built a total of 23 Sphere Drones. The workshop was successful as all the students who took part, learnt a lot of new things which they would not have learnt from their regular classes.



The Flying Session on Engineer's Day

The workshop was concluded after all the 23 drones were flown by the students in the University Ground, on the Engineer's Day, organized by the Faculty of Engineering. The students were thrilled and filled with joy when they were able to fly their Drones.

Faculty Coordinator: Prof. Niranjana S.J

Student Coordinators: Nikhil Kumar Reddy and Adishesha Sairam K.B