

# **ABSTRACT FOR ITSP 2016**

**Team Name-FALCON**

## **Members**

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**Project Title:-Flight using EDF Afterburner**

## **Brief Idea**

Making an Remote Controlled Plane with thrust source as an Electric Duct Fan Afterburner. For the fuel, butane will be used as it is safe and easy to use.

## **Rough Timeline**

Week 1 – Working on the EDF frame and RC plane structure

Week 2 – Developing Fuel control System and test runs for RC

Week 3 –Completing the RC plane and assembling

Week 4 – Test runs for the assembled project

## **Components Required**

10 blade 70mm fan EDF, ESCs(2) , Brushless Motor, Servo Motors (2), Tazer Gun,Butane Fuel Can(3),

Aluminium sheets , Styrofoam , Piano wire and minimalistic stuff

**Approximate Budget** INR 9500 approx

## **Learning Expectations**

Use Gas propulsion system in a controlled manner ,thrust related experimentation, ignition and flame stabilization, material related experimentation

## **Explanation of Idea**

The project aim is to put an EDF afterburner to the back of a RC plane to increase the thrust by 15 – 20%. For this, an Electric Duct Fan(EDF) of suitable RPM is used and it is modified by adding an afterburner to it. This is done by adding a fuel pipe that will have holes for the fuel to come out. To ignite the fuel tazer or probably some other mechanism will be used. Servos will be installed to control the amount of fuel sent into the Pipe for controlled combustion. This whole system will be installed in a normal EDF RC plane . We will have to see the weight to thrust ratio and overall weight distribution of the RC plane.

