**Skysparks**

# Abstract

**TEAM NAME:**

| Sr.No. | Team Member | College | Email | Contact Number | TECH ID |
| --- | --- | --- | --- | --- | --- |
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**Team Leader’s Name:** Anushka Rajput

**Team Leader’s Contact Number: 90795 18956**

**Model Details**

**Plane Configuration:**

**Wingspan**: 100cm

**Dimensions**:120cm x 20cm for wings

**Other Details**: For fuselage 70cm x 8 cm, For horizontal stabilizer 40cm x 14cm, and Vertical Stabilizer 21cm x 18cm

**Transmitter Details:**

**Company**: Fly Sky – i6

**Radio Frequency Range**: 2.408 – 2.475GHz

**Channels**: 6

**Details of all electronic components used in the plane:**

**BLDC Motor**: 1. A2212/8T

2. 1800KV

**Battery**: 1. 3S and 4S Lithium Ion Battery

2. Weight 175gm

**Esc:** 1. 30A BLDC ESE

2. Input voltage: 11.1 – 11.7Volt

3. Consume Current upto 30a

**Other details**: Propeller 6-inch length, Servo motor, Snap Connectors, Horns, Bold, GI rod, Receiver

**Details of construction materials used for making plane structure:**

The material we are using for the making of RC planes is Styrofoam. Because it’s light in weight and possess good compressive strength. We can just connect a motor along with some servos for the controls and you are ready to go. Plus in a crash the foam breaks, but protects the expensive parts so we can move them over to a new foam body.

**Level of expertise giving details about any other RC flying competition (if any) that you have participated in:**

Medium level Knowledge of flying.

**Innovation in the model including the mechanism details:**

This model consists of elevator attached to the horizontal stablizer and allerons attached to the wings , movements of the allerons and elevator provides the direction to plane . The forces acting on the plane are lift , drag , thrust and weight . A propeller is attached to the fuselage to provide thrust . The airfoil structure provides the pressure difference which can be calculated using Bernoulli equation , causing plane to move forward.

We have constructed a payload chamber for keeping the desired payload. The opening of the chamber is connected to a servo motor such that it is directly controlled by the transmitter. When we have to drop the load, the chamber will be opened with the help of transmitter control resulting in the drop of provided load i.e. a golf ball ( 43mm, 45 g ).

**Use of your model or the mechanism in the real world:**

Scientific, government, and military organizations are also using RC aircraft for experiments, gathering weather readings, aerodynamic modeling, and testing.

When an airplane moves on the runway, the shape of the wings of airplanes is designed in such a way that the air flowing over the upper side of the wing has to cover more distance than the air flowing underneath at the same time. Hence, on the upper side of the wing, air velocity is higher than on the lower side, and the pressure is lower on the upper side of the wing; making the aircraft take off when the air tries to move from higher pressure to lower pressure.

Our model mechanism is used in that areas where not an airport for plane landing but planes have to drop some important things in that area such as flood areas where we drop food, medicine, and other important thing.

**YouTube link showcasing your flying skills.**

**https://youtube.com/shorts/j4\_hBCHbTdI?feature=share**

**Zip file of photos**

<https://drive.google.com/drive/folders/1or2gN3K-2t8ahjgyFTY3jEAaMO-7iA9W>