



# DARE 2 DEFEND

Get Your Planes Armed Up

## Introduction

There have been recent events of terrorist attacks on Indian territories. The Air Force is looking forward to retaliating by attacking the enemy's settlements. They have contacted you and your team to design a fixed-wing aircraft. If your idea matches their application purpose, they will have your team fly and destroy the terrorist camps.

## Prize Money

1<sup>st</sup> Prize: 12,000

2<sup>nd</sup> Prize: 8,000

3<sup>rd</sup> Prize: 5,000

## Problem Statement

- A team must design, fabricate and demonstrate a fixed-wing aircraft system that can perform tasks mentioned in the following rounds with given constraints.
- The teams shortlisted from Round I will be eligible to appear for the offline Round II.

### Round 1

- In the first round, participants will have to submit a Proof of Concept through Google forms.
- The form will consist of some basic questions about the parameters and constraints of the aircraft, which the contestants have to answer about their design.

### Round 2

- In-person Flight Round.

## Constraints

- The competition requires participants to design and fabricate an RC aircraft. Readymade models, like RTF, ARF, BNF, etc., are not allowed.
- $T/W \leq 1$  (Thrust/Weight ratio).
- Total Wingspan  $\leq 1.2\text{m}$ .

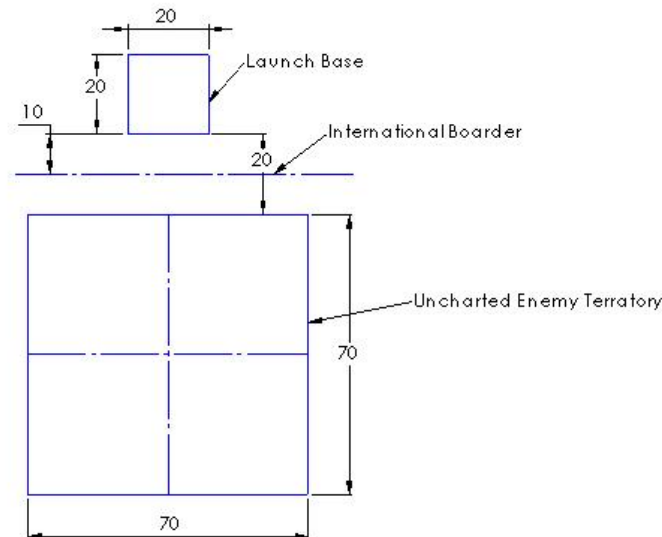


## General Rules

- Each team will have to fly through the arena in the given time, or else the aircraft will be detected in the enemy radars and will be disqualified.
- The maximum flight time would be of 3 minutes. The timer would start after crossing the international boundary.
- The mission is to burst balloons that are placed inside the uncharted enemy territory using a self-made balloon bursting mechanism. Bursting each balloon will carry some points; however, bursting one balloon is mandatory.
- The mechanism should be static, i.e., it should not have any projectile or launch mechanism. The balloon bursting device must not extend 5 cm beyond the aircraft's parameters (surface/boundary) after being installed. Up to 5 units of the balloon bursting device can be used. Kitchen knives and blades are prohibited.
- The balloon busting mechanism should be detachable from the aircraft and not controlled by any remote or other powered mechanisms. Concerning safety, the team would be allowed to fly only after passing the technical inspection.
- If the fuselage of the aircraft goes outside the track, some points would be deducted from the final score.
- Once the aircraft crosses the international boundary to return back, the timer would be stopped.
- Bring your college/student I-Card at the time of competition.
- Decision Taken by Judges will be final and binding for all.
- Any misbehaviour will lead you to disqualification from the competition.
- If less than 5 teams will be registered, then only first prize will be given.

## Track Specifications

- The enemy territory will consist of no more than five balloons ranging in altitude from 1.5m to 8m.
- The minimum distance between any two of these balloons will be greater than 10 meters, and each balloon will be at least 12cm in diameter.
- The dimensions of the arena (in m) are as follows:



## Team Specifications

- Team should be of 3 to 5 members.
- Members of a team may be from the same college/school or different (K12/UG/PG).
- Any number of teams can participate from one college/school.
- Professionals are not allowed. Only students can participate.
- Participants are required to bring their school/college ID cards.
- Once registered, the same team cannot register with another name or for another model other than previously registered one.
- Every team must have a unique name that should not be offensive conflicting or inappropriate.
- Organizers have the right to reject entries for any inappropriate team name.
- Organizers must be notified if a team's name has been changed.
- Team Representative: Each team must specify their Team Representative (Leader) at the time of registration on the website. All-important communications between the organizer and the registered teams will be done through their Team Representative. The Team representatives must submit valid contact details (phone no., email id, etc.) at the time of registration.
- If teams don't show up on allotted slot, they will be disqualified.



## Event Timeline

Round 1 (Virtual Mode)	Round 1 submission deadline	9 <sup>th</sup> April 2022
Round 2	Releasing list of shortlisted teams	10 <sup>th</sup> April 2022
	On site event	14 <sup>th</sup> April 2022

## Registration Details and Fees

The registration window will open soon!

