



QUADCOPTER CHAMPIONSHIP

SPECIFICATIONS:

- The dimension of the Quadcopter including the Gimbal arrangement and the landing skids should be 600x600 mm.
- There is no restriction in the use of Quadframe material, Rating of BLDC Motor, Electronic Speed Controllers, Batteries, Propellers and Weight.

RULES AND REGULATIONS:

- The team must comprise of minimum 1 and maximum 5 members including pilot who are undergraduates and maybe from a different institute.
- A team should bring all required materials.
- Incase of any technical failure of the Copter, any team which fails to report at the time specified for repair, they will be eliminated.
- The participant is not allowed to be a part of more than one team.
- Quadcopters must be built according to the specified dimensions.
- Quadcopter must have a propeller protection .
- The same Quadcopter must be used in all stages of the competition and replacement will be allowed only in case of an accident.
- Incase of any unresolvable technical issues, the team can restart the same stage with some negative points.
- Any Copter found damaging the arena will shall be eliminated from a particular stage by the judges decision.
- The registration number provided to the teams at the time of registration will be used for all communication.
- READYMADE QUADCOPTER KITS ARE STRICTLY PROHIBITED. ANY MATERIAL FOR THE COMPETITION CAN BE PURCHASED FROM ROBOMART.COM OR ROBOMART STALL AT THE VENUE OF THE COMPETITION.
- THE TEAMS ARE RESPONSIBLE FOR ALL THEIR MATERIALS AND ANY COMPLAINT WILL NOT BE ENTERTAINED



ROUND 1-
Rapid Flight

This round consists of colored rings , each colored ring has a number allocated to it. The teams are then asked math equations , the answer of the equations are always one digit answers. one of the team member must pilot the quadcopter to the colored ring corresponding to the answer of the math equations. The difficulty of the math equations increases as they are answered.

There is a time limit of 3 minutes.

Judging criteria-

The teams are awarded points each time a question is answered directly and they pilot the quadcopter to the correct colored rings . The amount of points awarded for answering the questions are increased as the difficulty of the question increases.

Pointing System - 1st

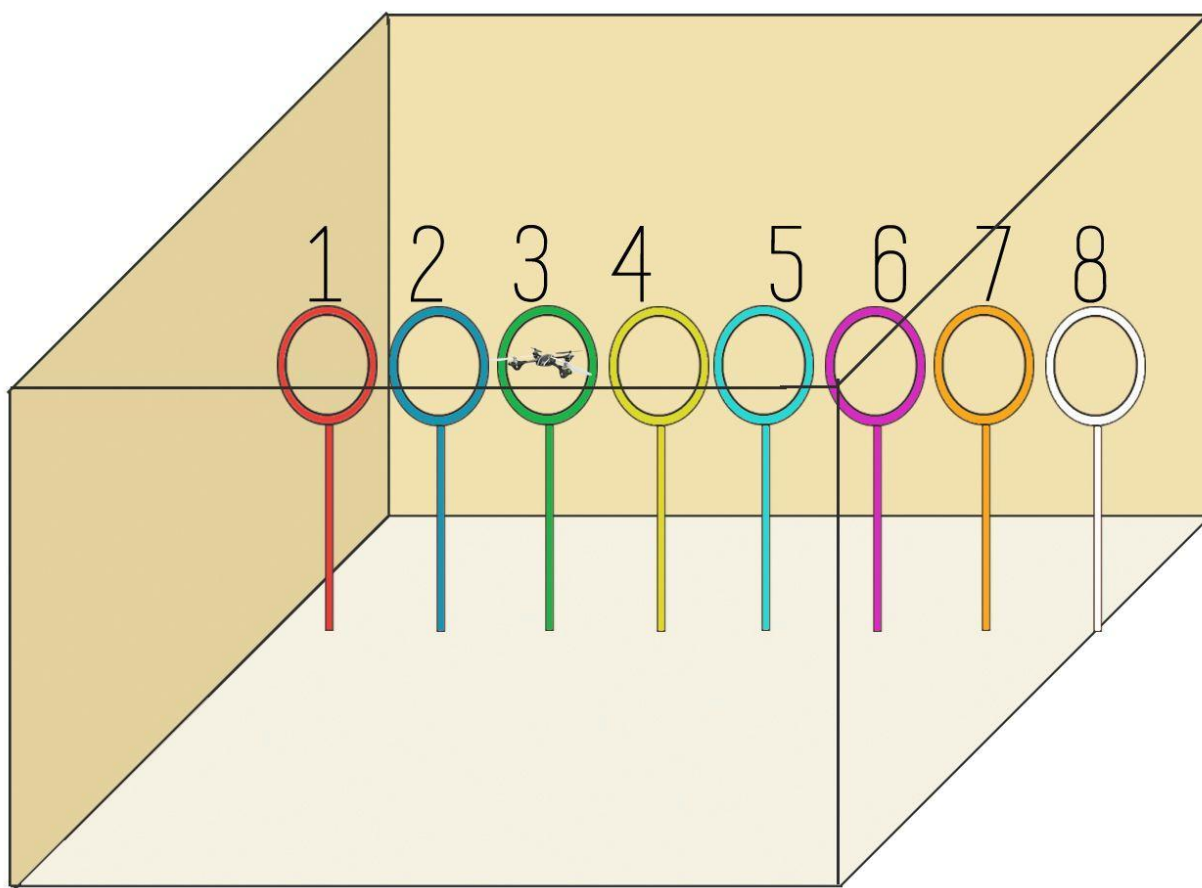
question - 1 point

2nd question - 2

points 3rd question - 3

points and so on.....

Teams will be evaluated based on the number of points they score.





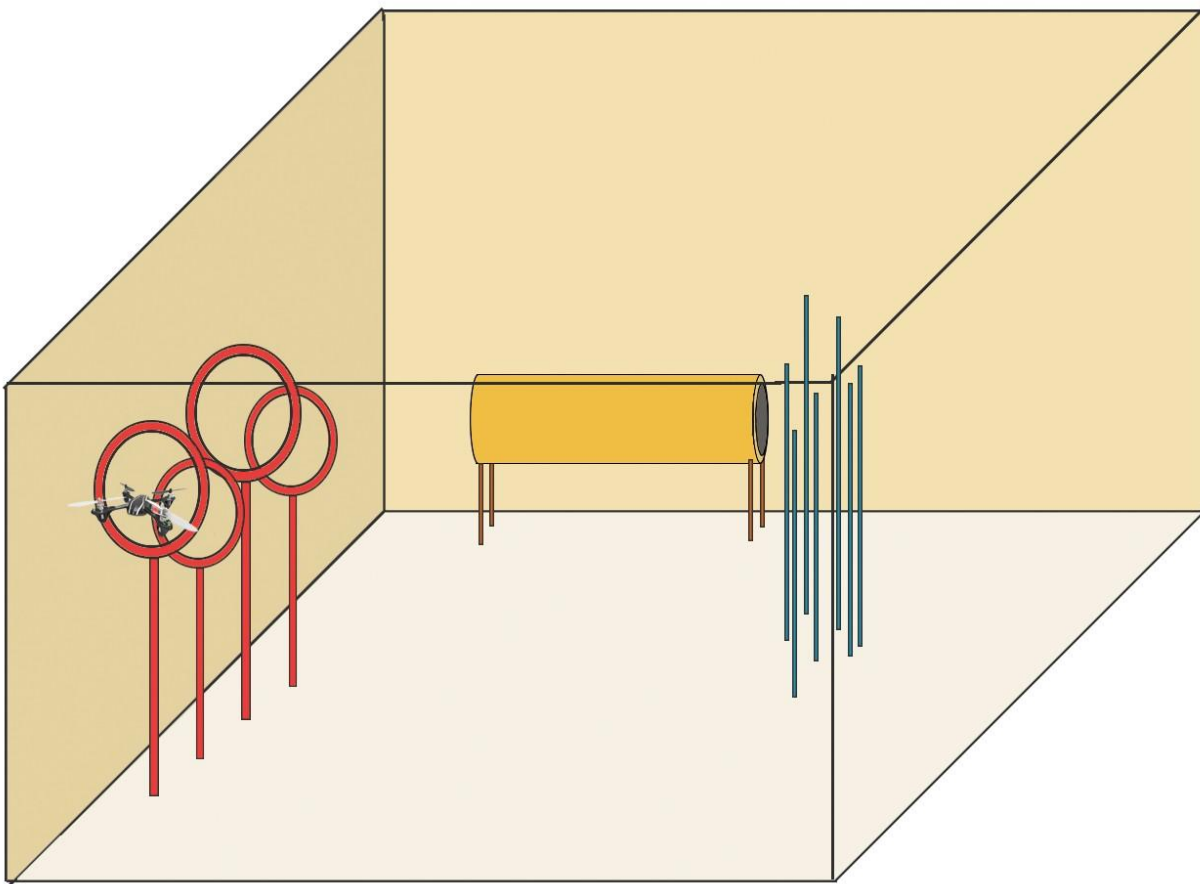
ROUND 2-

Obstacle Course

An obstacle arena will be constructed using Rings,walls,tunnels, etc. The teams must go through the designed course without coming in contact with any of the obstacles. Points will be awarded based on the time taken for the completion of the course. The faster they complete the course, the higher they score. The whole course has a time limit of 5 minutes.

Pointing System-

Every team starts out with 600 points , when the timer starts their points start decreasing as the time increases.For every second, 2 points are reduced.





ROUND 3-

Building Blocks

Metal blocks are present scattered across the room. The participants must build a tower by stacking the block on top of each other, They must use the quadcopter to carry and place these blocks. These blocks are decreasing in size so as to add stability to the tower. An electro magnetic hook which can be turned on and off with a wireless switch is provided. This hook is used to pick and drop the blocks.

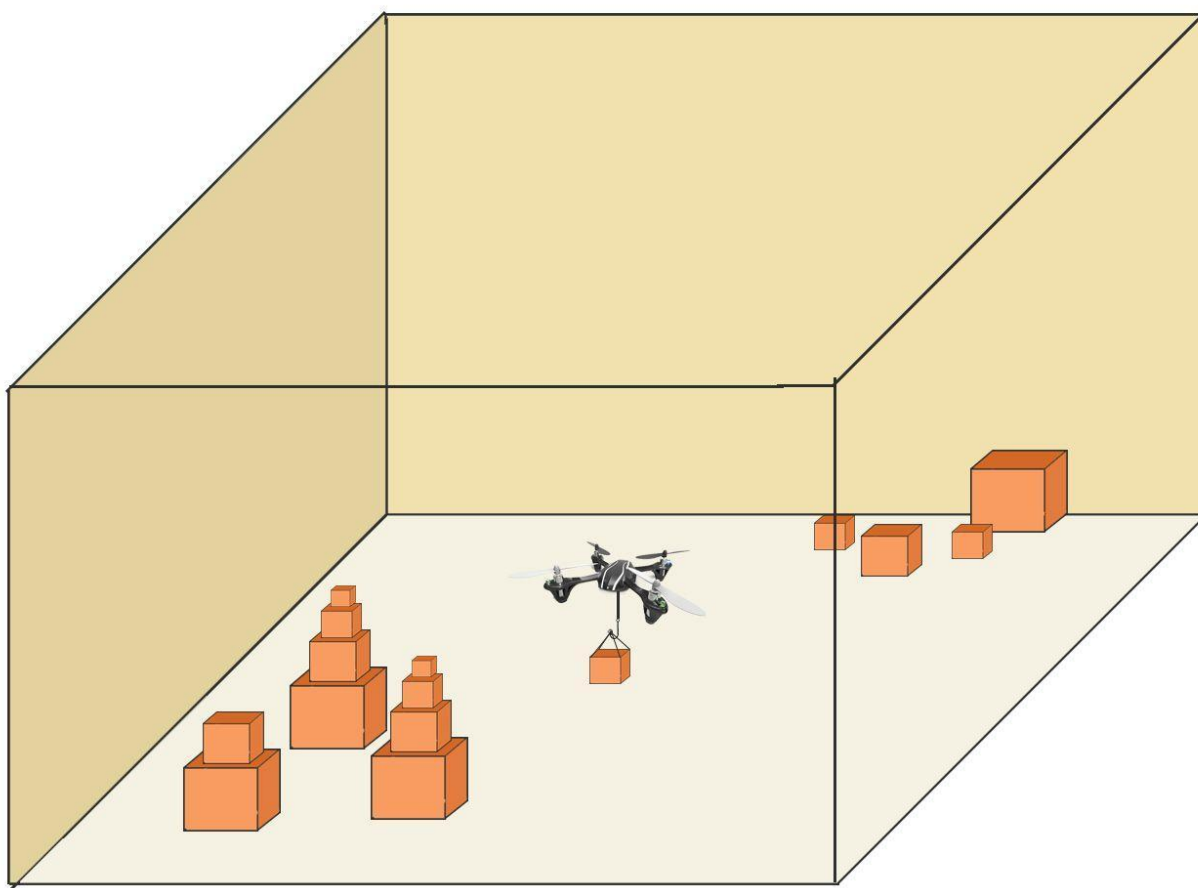
Pointing System-

Points are awarded to the team each time they successfully place a block on top of each other. The points awarded for each block will increase as the height of the tower increase.

ex- 1st block = 100 points

2nd block = 120 points

3rd block = 140 points and so on...





ROUND 4-

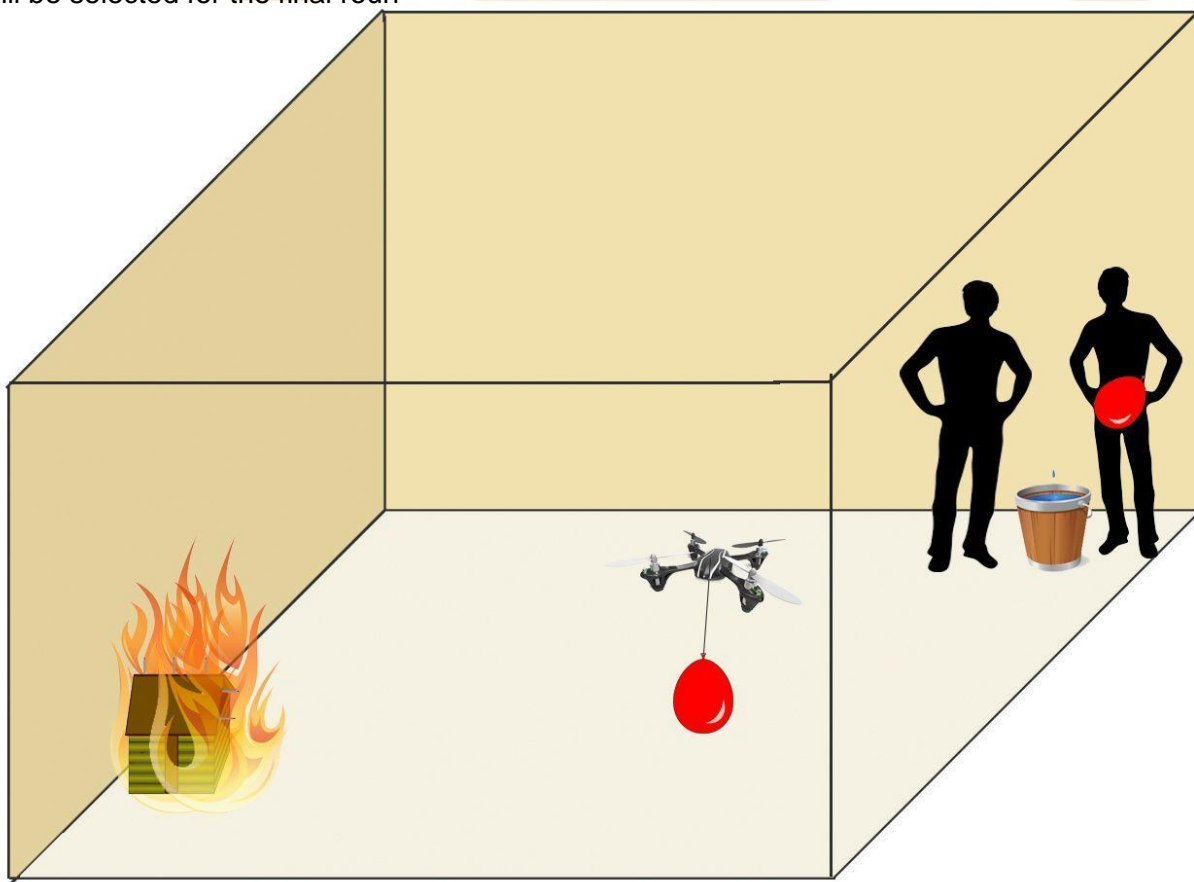
Firefighting

Miniature structures consisting of 5 buildings will be lit on fire. The teams must fill a balloon with water and use the quadcopter to carry the balloon. There are pins present on the structures, which are used to burst the balloon. These balloons will burst causing the water to extinguish the fire. This process must be repeated until entire structure's fire is extinguished.

Pointing System-

Every team starts out with 1200 points, when the timer starts their points start decreasing as the time increases. For every second, 2 points are reduced.

The Top 5 teams (the teams with the maximum points accumulated from the first 4 rounds) will be selected for the final round.





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ROUND 5 -

Maze

The participants will be sent through an honeycomb maze , they will have to navigate through the maze with the aid of the cameras fitted onto their quadcopter.

Pointing system-

Every team starts out with 900 points , when the timer starts their points start decreasing as the time increases. For every second, 3 points are reduced.

