



IIIT NAYA RAIPUR TECHNOVATE 2020



BUZZ COPTER

Introduction:

Design a wireless remote controlled multi-rotor (Tri-copter, Quad-copter, Hex-copter, etc) to cross an obstacle course in minimum time without crashing.

Competition Design:

There will be only one round which will test the ability of pilot to handle the multirotor across the obstacles. If the multi-rotor successfully crosses the obstacle, point will be awarded according to each obstacle. Each team will be given two attempts . However, some points will be reduced as penalty.

NOTE :ALL RULES MAY BE MODIFIED OR NEW RULES MAY BE ADDED BY THE EVENT HEAD AND PARTICIPANTS HAVE TO AGREE WITH THE MODIFIED RULES



Model Specifications:

- Only Self-made multirotor is allowed.
- Use electrical motors only.
- Use of any Automated Features of flight control Board (such as Position Hold, Altitude Hold) is prohibited.
- Machine should fit into the dimension box of 400mm x 400mm x 300mm.

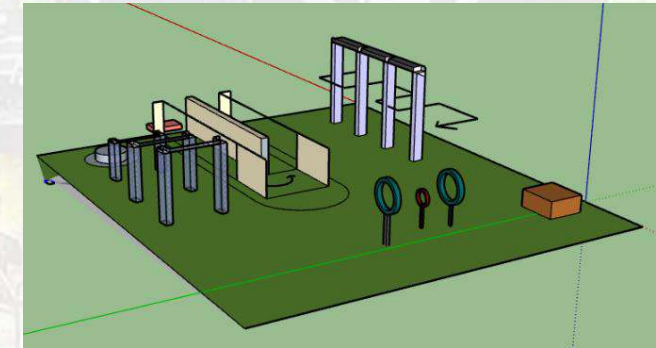
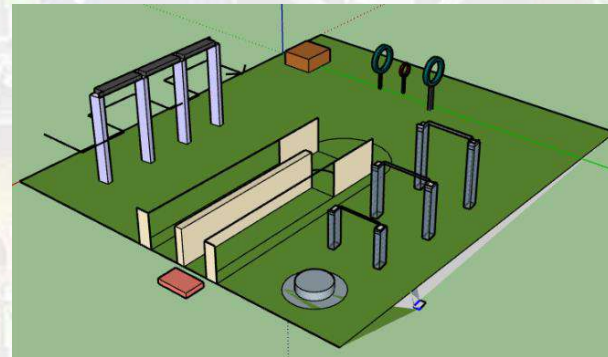
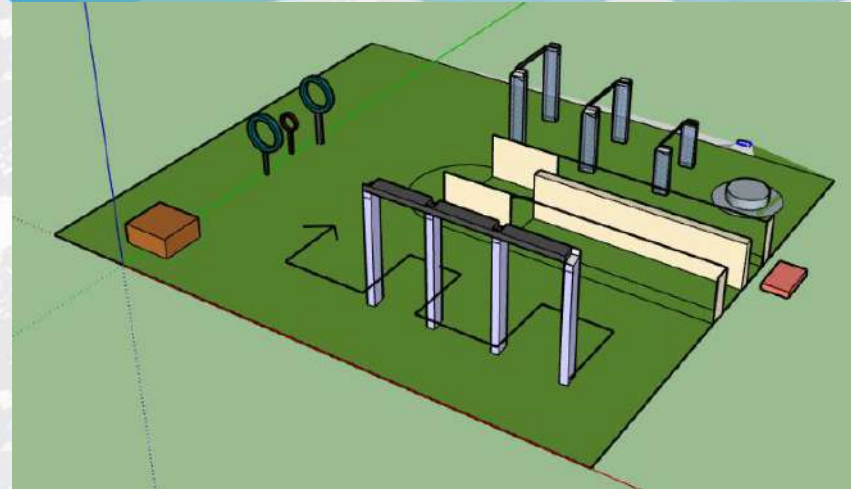
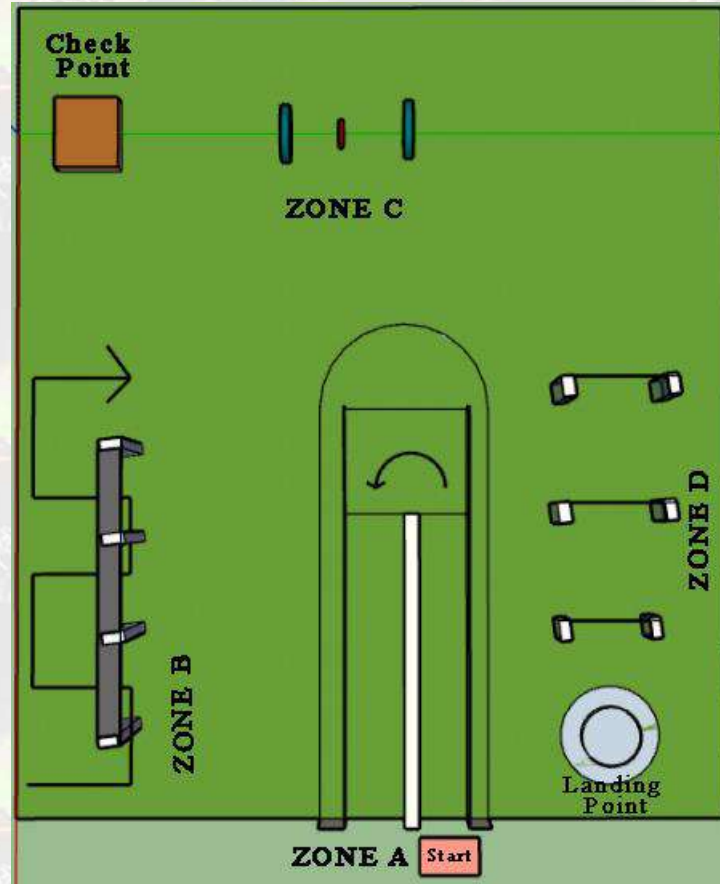
Registration Fee : Rs 500/Team.



Arena Design:

- It has 4 Zones – Zone A, Zone B, Zone C, Zone D in series.
- The multirotor should take off from the start point.
- After take off the multirotor should pass through Zone A. This zone consists of U-Shaped path.
- Zone B consists of 4 vertical poles placed parallel to each other.
- Zone C consists of 3 Circular rings placed in series. 1st and 3rd Rings are with Larger dimension and 2nd Ring with smaller dimension.
- A checkpoint is present in between Zone B and Zone C.
- Zone D is consists of a horizontal tunnel.
- Finally the multirotor should land in the landing area provided.
- Each of these Zones consists of specific points according to which the final winners are declared.

*All the dimensions of the Hurdles will be larger according to the given dimensions of the multirotor.



*Size of hurdles will be greater than given dimension of copter.



Task:

- Multirotor has to take-off from the start point as explained earlier.
- It has to pass through Zone – A, B, C, D in the same order.
- Zone A consists of U-Shaped path in which you have to take 180 degrees turn at the end and come back and pass to Zone B.
- In Zone B the multirotor should pass between the poles in a zigzag pattern.
- In Zone C 1st, 3rd rings are mandatory and 2nd ring is optional. 2nd ring contains more points compared to 1st and 3rd rings.
- There is a Checkpoint position in between Zone B and Zone C.
- In Zone D the multirotor should pass through the set of tunnel and this will be the last hurdle.
- Points will be awarded for each zone alongside penalty is also imposed on violating the rules.
- Every Zone is not mandatory. If a player wants to skip a hurdle, the points related to that hurdle are not awarded along with (-3) penalty points are allotted.
- It has to land safely and smoothly in the landing zone. Landing points will also be awarded

***In all direction's events head's decision is final.**



Rules:

- Two attempts will be given to each team without any pre-condition and best of the two scores will be considered for evaluation.
- If multirotor remains within radius of 1m from the centre of the starting zone after the take-off and touches the ground, the team can opt for a re-attempt.
- In one chance only one touches of the multirotor and arena (including ground) are permissible. The second touch will be considered **final touchdown point and will lead to termination of that chance and the points scored till then will be considered.**
- If the multirotor touchdown after passing the checkpoint, then the multirotor can again continue from the checkpoint.
- Teams can skip any hurdle/tunnel as per their convenience; however they will not be awarded any points for that hurdle/tunnel. **There is no negative scoring for skipping the hurdles/tunnels.**
- If any part detaches in the air (except the cubical package) while performing the tasks, that position will be considered as final touchdown point.

***More Rules may be added by the time of Event.**



PRIZE DETAILS

Prizes Worth: Rs 18000

Certificate policy:

- Top 2 teams will be awarded with certificate of excellence and the other monetary prizes.
- Certificate of participation in e-format will be given to each participant.

Coordinators:

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