

## Rulebook

# Drone Racing Challenge

(Open for All)

### About

In drone racing, competitors' pilot "drones," which are essentially tiny camera-equipped radio-controlled aircraft or quadcopters, while donning head-mounted displays that display the live video feeds from the drones. Like in full-scale air racing, the goal is to finish a predetermined circuit as fast as possible. The chance to demonstrate your skill of practical fast flight is guaranteed by the **National Innovation Competition 2024 - Technocrats V.2**. Drones face difficulties when competing in drone racing since they have to traverse a crowded indoor space without the use of external sensors, which means they have to perform all of the processing and sensing onboard. Although no team has yet completed the entire race circuit, most successful teams employed waypoint tracking strategies and good visual identification of the gates of various colors because competitors were given access to all environmental data before the races.

### Eligibility

1. Participants must be **University** (Undergraduate Level, Bachelor's, Honor's, Degree), **College, Polytechnic** students. Participants must have a current studentship status which could be verified by an institutional ID card.
2. Each team shall be within **1-4 members**.
3. Students from different educational institutions can form a team.

**Registration Fee: 2,000/-**

**Registration Link:** <https://forms.gle/oEvzskqBnCiTCchv7>

(Please select your following segment during registration)

## Arena Specification

- There will be several **boxes (400mm\*400mm)** marked on the ground.
- Participant will have to take off from a box, and go and land in another box (as per through a circle).
- The path will consist of **pillars, loops, bends, and underpasses**, placed in random sequence along an aerial track. It will end with a drop zone and landing pad for testing manoeuvrability skills.

## Bot specification

- Machine should fit into the dimension box of **400mm x 400mm x 300mm**
- Use of **autopilot, sonar, or obstacle** avoidance system mode ex: Loiter, GPS, etc. is prohibited. If found, the copter will be disqualified.
- The quadcopter must be manually controlled.
- **Readymade** quadcopter is not allowed.
- Please **bring extra propellers** and chargers for your quadcopter.

## General Rules

- Flight time for a run is defined as the time taken by the drone to complete the path from the start zone to the end zone.
- A maximum time of **5 minutes** from take-off to landing will be given to complete the circuit.
- The timer will start from the moment the **countdown finishes**.
- The timer will stop only when the drone finally lands on the **landing zone**.

The time measured by the organizers will be final and will be used for scoring the teams.



- Any sort of misconduct at the IUBAT campus may result in disqualification.
- Time measured by any contestant by any other means is not acceptable for scoring.
- In case of any **disputes/discrepancies**, the organizers' decision will be final and binding.
- The organizers reserve the right to change any or all of the above rules as they deem fit.
- **Trial runs** on the track are not allowed.

Changes in rules, if any will be highlighted on the website and notified to the registered teams.

### Sample Arena of Drone Racing Challenge



## Awards

- Champion will be given a price money of **30k** along with crest and certificates.
- Runner-Up will be given a price money of **20k** along with crest and certificates.
- 2nd Runner-Up will be given a price money of **15k** along with crest and certificates.

**NOTE – The team Coordinator and Judge reserve the right to change the rules at any point in time. The change will however be highlighted on the website.**

**For Any Queries:**

**Contact/Organizers Details**

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