# FPV DRONE RACE

## Drone Specification
- Maximum Frame size: 250mm. (recommended 75mm)
- Weight of the drone: 1 Kg (approx.) with battery
- FPV Cam & Goggles are Optional.

## Pre-Competition Safety Requirements
- Safety Requirement and Event Participation List
- Each participant attests to the fact that he/she has the appropriate experience to participate in the event, or will be assisted by an experienced participant during any and all flights in which he/she may participate.
- All drones must be successfully test-flown and are therefore qualified to be flown in the presence of fellow participants, event officials, and all others who may be in the arena during the event period.

## Pre-Flight Inspection
- Each participant must have their drone inspected for airworthiness. Event Technical Coordinator will ensure materials and workmanship shall be of satisfactory standards.
- The Event Convenor / Organizing Head may disqualify any drone which, in his or her opinion, is not safe and airworthy in terms of materials, workmanship, radio installation, radio function, design details or evidence of damage. During the pre-flight inspection pilots will be asked to remove props and demonstrate that their aircraft is programmed for arming/disarming switches on their transmitter and failsafe correctly in the event that radio control link is lost (optional). This is demonstrated by arming the aircraft (with props off), spooling up the motors.

## VENUE SAFETY GUIDELINES
Field of play is a simple field consisting of a take-off pad, landing pad, and gates. The size of the gate varies and 250mm frame drones are able to fly through it.

## Flight Envelope
- Maximum Height: Free style within obstacles/arena (not above 10ft)
- Set Course Back Distance: Courses must be set up using the approved set-back distances to ensure the safety of participants unless the race course is netted.
- Prop guards are highly recommended to avoid the drone damage to the race field.
- The minimum distance from the flight line to any human occupied areas must be 6 ft. The recommended distance is 7 ft or more.

## Participant Guidelines

- Listen and follow ALL instructions from the Contest Director or Race Director or Event Convenor or Organizing Head.
- NEVER walk onto the course while drones are flying.
- The course's flight line defines where the pilot or spectator area ends and the course begins.
- This flight line is not to be crossed as it will be well marked and highly visible
- When you retrieve a drone after a completed race, ensure you cut-off its power immediately.
- Location of the first aid kit will be shared with the participants on the event spot.

## Pilot Guidelines

- Fly only in designated areas.
- Fly only at appropriate times (recommend slot).
- Only power up your drone/video transmitter while in the Start/Finish area on the course.
- When flying on the course, you must be positioned within the designated Pilot Area. DO NOT fly from any other area.
- When finishing a race, land in the designated landing area on the course.
- DO NOT power up in the pits or while walking from the pits to the course .
- Spotters/Team mates can stand in the allocated area with Pilot during the flight for communication purpose.
- Proper sportsmanship and conduct is to be exemplified. Examples of poor conduct would include, but are not limited to: affecting another Pilot's Race or Equipment by speech or any sort of tampering or aggressive behavior.

Any Competitor attempting to win a competition by irregular means, fails to follow an Official's order, fails to observe the safety rules, who conducts in a manner unprofessional sport during the competition may be disqualified.

## Spectator Etiquette

- The event is fun to watch and discuss. However, please stay away from the pilots within the Pilot Area while they are flying (unless you are acting as a spotter). Clear communication is essential with the pilots for accurate lap scoring, penalties and hazard warnings.

## Number of Models

- Each competitor may use a maximum of 2 models for the entire event with the same specification after verifying it with the Inspection/Verifying Committee.
- A model can be used by only one TEAM competitor per event.

- In case of an infringement to that rule, all concerned competitors will be disqualified from the event by the event director.

**The competitor can change the model:**
- Before the start of the race as long as the competitor hasn't left the preparation area.
- Between two rounds of the qualification stage and elimination stage.

**Model Processing**
- Each competitor can register up to 2 models ( same/different specifications ).
- The specifications of the model may be checked by the organizer. It is then recommended to check the following points:
- Identification mark
  - Flight controller
  - Weight and size.
  - Batteries (voltage).
  - Fail-safe and associated device/programming for arming/disarming the motors.
  - Radio control equipment.
  - VTX, FPV camera and headset goggles/display.
  - LED light (optional)
- If a model is lost or damaged after model processing, the competitor shall have the right to
- further model for checking up before the official starting time of the event.

# GENERAL DRONE RACING RULES & ARENA

**Race Course Obstacles**
- The course will consist of many obstacles including but not limited to gates and hurdles. Some obstacles have a defined requirement for considering them completed and enabling the pilot to move on to the next obstacle in the course. If a pilot misses or does not complete an obstacle successfully, they must go back and fly through the missed gate, hurdle or obstacle otherwise negative points/timing will be allocated according to obstacle difficulty level.

**Racetrack/ Racing Circuit (Regional)**
- A racing circuit (or track) has a start line, obstacles to be crossed or avoided and a finish line with appropriate pilot seating/standing area.

- The racing circuit can be a closed loop where several laps must be completed or an open loop to be flown once. In both cases, the track can be divided into sectors to facilitate timekeeping.
- The minimum length of a racing circuit from the start line to the end line, including all laps.
- If the circuit is kept secret, the main characteristics (approximate length, number of laps, focused on speed/technical/both, types of obstacles, etc.) must be published two to one hour before the event and practice time is allocated for the competitors to adapt according to circuit.

### Unsafe Flying

- During the pilot briefing the Race Director will inform the pilots of the safety boundaries (if they exist). If you fly out of the safety boundary, your round will be disqualified.

### Aircraft Damaged/Not Able to Race

- If a Pilot notifies the Race Director prior to the start of the heat that they cannot race, the race director may either delay the race as a "mercy minute" or move the pilot to an alternate heat or designated heat for reruns, or deny the request at their sole discretion. The amount of exceptions that will be given to a pilot is up to the Race Director discretion.
- The Race Director should be fair and consistent once precedence has been set.

### Starting a Race

- Drone must be kept at takeoff point (defined location).
- Only one extra chances will be facilitated in case of
- Pilot Jumps the Start Buzzer or Starts Early ( False start)
- Drone does not take off
- Crash into other drone
- Crash into an obstacle ( In case of drone is totally destroyed 2nd drone can be used )
- After second chance drone/team will be directly disqualified
- In case of a crash, and when the drone cannot go on, the drone must stay on the ground with motors cut off until the end of the heat.

### Finishing a Race

- Drone is needed to clear the finish line for full completion of race/heat. Timings/points will be evaluated on the basis of completion of the race.

## Team General Safety and Conduct

- No teams will be allowed in the Team Pit Area or on the Flight Line unless it is their time to stage for their next race, or it is their heat. All above rules and conditions must be followed by the pilot and all fellow team members.

## Practice Rounds

- A practice session will be scheduled before for local participant but with prior
- Approval from the event Coordinator.
- Practice flights on the racing circuit other than those authorized by the organizer are strictly
- forbidden under threat of being disqualified from the event.
- Each competitor will only enter this practice session when he or she has finished model's registration and processing.
- The organizer defines the conditions of the practice session.
- Only registered players/ teams can practice with an allocated time identical for each group.
- The allocated time and the number of competitors per group will be defined by the organizer.
- The number of practice flights is defined by the organizer and must be the same for all groups.
- In any case, each competitor can do as many circuit laps as he/she wants within the allowed practice time.
- Once the practice time is over, competitors still in flight can complete their ongoing circuit lap before landing.
- In case of a crash, and when the model cannot go on, the model must stay on the ground with motors cut off until the end of the practice session.
- The competitor cannot request another practice time except if the reason for the crash cannot be attributed to him/her.

## PRIZES

- The prize money will be awarded to winners via NEFT and will be processed within 25 working days after receiving the prize money from our sponsors.
- The winners will have to mail the following information (immediately after the announcement of results) to **techclub@nituk.ac.in** strictly in the following format:

  - Subject
    - Competition Name, Team ID - your position (example- Robowars, PG1003- 3rd Position)
  - Body of mail:
    - Captain Account Holder's Name
    - Account Number
    - Bank name and Branch name.
    - IFSC Code

## AN IMPORTANT NOTE:

- Judges can disqualify a team if any of the above criteria is not fulfilled.
- These rules may change at any time, even without explicit notification to teams.
- However, the document uploaded here is to be followed as the latest problem statement for all the rules and design specifications.The teams acknowledge that they have a responsibility to read, understand and abide by the rules and
- Prodyogeeky reserves the right to prevent any team from competing at any time for any reason.
- In case of any queries, participants are encouraged to contact Prodyogeeky'24 Team.
- Prodyogeeky'24 has the rights over the guidelines and can alter them as per the requirements.