

Presidency University

INNOVATEX 4.0

DRONETRIX DAY Official Rule Book

1. EVENT OVERVIEW

Event Name:

DRONETRIX DAY – Engineering the Sky

Cluster:

MakerSpace Cluster

Event Type:

FPV Day Drone Racing & Daytime Drone Operations

Mode:

Offline

Team Size:

4 Members per Team

Event Timing:

9:00 AM – 6:00 PM

Venue:

Presidency University Campus, Bengaluru


Faculty Coordinator:

Dr. Divyarani M. S.

Deputy Director, MakerSpace

Event Student Head:

Tanish K

 9606747879

2. EVENT OBJECTIVE

DRONETRIX DAY is a technical drone competition aimed at testing **student-built drones** under controlled daylight conditions through FPV racing and precision flight operations.

The event focuses on:

- Engineering discipline and drone design
 - FPV piloting accuracy and control
 - Team coordination and pilot discipline
 - Safety compliance and airspace awareness
 - Real-world UAV operational practices
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3. TEAM COMPOSITION RULES

- Each team must consist of **exactly 4 members**
- No team member substitution is allowed after registration
- All team members must be students

- At least one designated FPV pilot per team
 - A spotter is mandatory during FPV flights
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4. DRONE TECHNICAL SPECIFICATIONS

Allowed Configuration

- **Drone Type:** Quadcopter only
- **Maximum Weight:** 2 kg (including battery)
- **Maximum Frame Size:** 450 mm
- **Maximum Motor-to-Motor Diagonal:** 300 mm
- **Propeller Size:** Maximum 6 inches
- **Battery Type:** LiPo only
- **Maximum Voltage:** 22.2V (6S LiPo)
- **Fail-Safe:** Mandatory (Immediate auto-land)
- **Frame:** Can be custom-built or 3D printed

FPV & Electronics

- FPV camera: Optional
- Video transmission: 5.8 GHz only
- Frequency coordination mandatory
- Backup batteries strongly recommended

NOT Allowed

- Autonomous or semi-autonomous systems
- Fixed-wing or hybrid aircraft
- Tilt-rotor systems
- Coaxial or contra-rotating propellers
- Tiny whoop drones
- RF jammers
- Non-moving winglets creating lift or downforce
- Pre-built RTF drones
- Deformable structural parts

Violation of any technical specification results in **immediate disqualification**.

5. GENERAL RULES & GUIDELINES

Registration & Inspection

- Online registration is mandatory
- All teams must report on time
- Mandatory safety briefing for all participants
- Drone inspection clearance required before flight
- Teams are responsible for their equipment and spares
- Backup batteries are compulsory

Flight Conduct

- Flights allowed only in designated zones
- Spotter mandatory for FPV flights

- Officials' instructions must be followed at all times
 - Unsafe flying behavior will not be tolerated
 - Modifications allowed only with official approval
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6. FLIGHT ARENA & AIRSPACE RULES

- Clearly marked **flight zones**, **no-fly zones**, and **spectator zones**
 - Take-off and landing only from designated pads
 - No crossing safety barriers
 - No flights above permitted height
 - No flying over people or equipment
 - Entering a no-fly zone = **immediate disqualification**
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7. SAFETY RULES (MANDATORY)

General Safety

- Fail-safe demonstration required during inspection
- Protective gear recommended for pilots
- Safe distance from all active drones
- Spectators strictly prohibited in flight zones

Emergency Procedures

- Technical failure → **LAND IMMEDIATELY**
- Emergency stop command → all drones must land
- One restart allowed only for verified technical failure
- Medical team available on-site
- Fire extinguishers placed around arena
- First-aid facilities available

Weather Safety

- Event paused during unsafe weather conditions
 - Wind speed above safe limits → flights halted
 - Rain or lightning → immediate suspension
 - Officials may alter flight layout for safety
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8. PENALTIES & DISQUALIFICATION

Immediate Disqualification

- Flying outside designated zones
- Entering no-fly areas
- Unsafe or reckless flying
- Ignoring officials' instructions
- Use of prohibited equipment
- Tampering with safety measures
- Unethical conduct or misconduct

Penalties

- Penalties for collisions, missed gates, or unsafe maneuvers

- Repeated violations may result in run termination
 - Judges' penalty decisions are final
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9. JUDGING & EVALUATION

Teams will be evaluated based on:

- FPV flight performance
- Drone stability and control
- Technical execution
- Team coordination
- Safety compliance
- Overall discipline

The detailed scoring system, penalties, and tie-breakers will be applied as per official judging guidelines.

10. AWARDS & RECOGNITION

- Winners and runners-up will be awarded prizes as declared
 - Special recognitions may be awarded for innovation and performance
 - Participation certificates for all registered teams
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11. GENERAL INSTRUCTIONS

Before the Event

- Complete registration before deadline
- Prepare drones as per specifications
- Bring all necessary tools and spare parts
- Arrive early for inspection

During the Event

- Maintain discipline and sportsmanship
- Follow official announcements
- Keep work areas clean
- Report safety issues immediately

After the Event

- Attend awards ceremony
 - Collect certificates and prizes
 - Submit feedback if requested
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12. OFFICIAL NOTE

This **DRONETRIX DAY Official Rule Book** serves as the **final and binding authority** for all participants under **INNOVATEX 4.0 – MakerSpace Cluster, Presidency University**.

All decisions taken by judges and event officials are **final and non-negotiable**.

Prepared By:

Tanish K

Event Student Head – DRONETRIX DAY

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