



Drona Aviation Pvt. Ltd.

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SUBMISSION GUIDELINES

INTER IIT TECH MEET 14.0



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SUBMISSION GUIDELINES / CRITERIA

1. Required Deliverables

Each team must submit **four main components**:

A. Firmware Implementation

A complete MagisV2-ready codebase including:

- Sensor reading + filtering (OF, ToF, IMU)
- Velocity estimation
- Position, velocity, attitude controllers
- Auto-hover logic
- Micro-movement execution
- Parameter tuning
- Fallback behavior under poor sensor input
- Modular and readable structure

Format: Complete Project ZIP file.



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B. Technical Documentation (PDF)

Must include:

1. System Architecture Diagram
2. Sensor Fusion Design (OF + ToF + IMU + Baro)
3. Control Architecture (Position → Velocity → Attitude)
4. PID Tuning Strategy + Final Gains
5. Hover Stability Results
6. Micro-Movement Accuracy Results
7. Logs, graphs, plots, overlays [if any]
8. Failure Handling Strategy
9. Limitations, improvements

C. Demo Video

The video must show:

1. Takeoff
2. Stable hover
3. Drift-free stability
4. Altitude hold up to 2m
5. Disturbance recovery



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6. 10–20 cm micro-movements in:

- Forward
- Backward
- Left
- Right
- Up
- Down

7. Smooth stop and instant hover at each target

D. Submission Structure

Submission_IITNAME/

- | — Code/
- | — Docs/
 - | — Technical_Report.pdf
- | — Video/
 - | — demo.mp4
- | — README.md

E. Instructions to Edit plutoide.ini

1. Open the file named plutoide in any text editor (Notepad, VS Code, Sublime, etc.).
2. Inside the file, you will find the following line:
3. `project_name = IntIITXX`
4. Replace XX with the unique 2-Digit code of your IIT.
5. Do not change anything else in the file.



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2. Submission Deadlines

Teams must submit all deliverables before the official deadline announced by the organizers.

3. Submission Criteria Checklist

Firmware

- Runs fully on-board
- Stable, deterministic performance
- No external compute

Documentation

- Clear explanation of approach
- Includes reasoning for design choices
- Includes plots, measurements, overlays

Video

- Demonstrates all required functionalities

Code Quality

- Modular
- Readable
- Well-commented
- Maintainable