SUBMISSION GUIDELINES

INTER IIT TECH MEET 14.0

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.

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

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_IIT_Unique code/
├── 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.

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