Technical Board
IIT Guwahati

AEROMODELLING CLUB
IIT GUWAHATI

Camera Gimbal

GC Points – 350

Final Date – 25/10/2018

Venue – Aeromodelling Club, New Sac

Time – 18: 00

Last Updated – 20: 00 | 14/09/2018

Contact Details

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Objective:

To design a gimbal that is capable of at least 2-axis stabilisation.

Design Specifications:

- The gimbal must use an Arduino for programming and MPU-6050 accel + gyro sensor for knowing its attitude.
- 3-axis is recommended as this will provide almost complete stabilisation but 2-axis is also allowed.
- Servos or BLDC motors can be used for axis control.
- Here is a link to what the gimbal is supposed to do https://youtu.be/YwIk9Uc1-xc
- Searching for DIY gimbals online will give a good idea of how to make one but the code on the Arduino must be 100% self-written.

Marking:

- Points will be awarded according to the stabilisation the gimbal provides along each axis. Hence, higher the axis, higher the points.
- The amount of weight the gimbal can support will also be taken under consideration but stability will be given higher priority.
- Extra points will be awarded if the gimbal can take an actual camera or phone and record videos.
- Any additional features or modes added to the gimbal will also fetch extra points. Features from commercial gimbals can be taken as motivation but the code must not be copied.
- Point allocation is completely up to the organisers.
- Participants can bring their own cameras to demonstrate the working of the gimbal, else a GoPro Hero 5 will be used (120gms).

Qualification criteria: Stabilisation along at least one axis with or without any weight.

Team Specifications:

- A team can have a maximum of 5 members.
- Only one team can participate from one hostel.