

## **AE8712 FLIGHT INTEGRATION SYSTEMS AND CONTROL LABORATORY**

### DETAILED SYLLABUS

#### **OBJECTIVE:**

- This laboratory is to train students, to study about basic digital electronics circuits, various microprocessor applications in Control surface, displays fault tolerant computers, to study the stability analysis and design using MATLAB.

#### **LIST OF EXPERIMENTS**

1. Addition/Subtraction of 8 bit and 16-bit data for control surface deflection.
2. Sorting of Data in Ascending & Descending order for voting mechanism.
3. Sum of a given series with and without carry for identifying flap data.
4. Greatest in a given series & Multi-byte addition in BCD mode.
5. Addition/Subtraction of binary numbers using adder and Subtractor circuits.
6. Multiplexer & Demultiplexer Circuits
7. Encoder and Decoder circuits.
8. Stability analysis using Root locus, Bode plot techniques.
9. Design of lead, lag and lead –lag compensator for aircraft dynamics.
10. Performance Improvement of Aircraft Dynamics by Pole placement technique.