Course: CONTROL SYSTEMS LAB (EI181412)

Branch and Semester: B. Tech. 4th Semester (EE and IE)

I.   Course Objectives:
   1. To enhance the learning experience of the students in topics encountered in Control Systems using MATLAB software
   2. To get hands-on experience in using the control system kits which are developed to learn the fundamental concepts of control systems and control system components

II.   Course Outcomes:

After completion of the course the students will be able to

   1. Use MATLAB software to learn control systems (CO1)
   2. Analyze the response of control system by measuring relevant parameters (CO2)
   3. Interpret the role of various components in control system (CO3)
   4. Compare theoretical predictions with experimental results and attempt to resolve any apparent differences (CO4)

III.   Laboratory Manual: The manual has two parts:

PART I: It includes control system assignments to be solved using MATLAB/SCI lab or other computer programming language. There are five assignments in the manual covering entire control system syllabus.

Part II: It includes the following control system experiments. Students perform the experiments using control system kits.

Experiments:

   1. Light Intensity Control Systems
   2. DC Position Control Systems
   3. Characteristics of Potentiometer Error Detector
   4. Study on Speed-Torque Characteristics of DC/AC Servomotor
   5. Synchro-Transmitter Control Transformer pair as an Error Detector

IV.   Evaluation:

Control System Lab is a single credit course. Continuous evaluation (CE) carries 15 marks and End Semester Examination (ESE) carries 35 marks.

V.   Laboratory Faculty in-charge:
   1. **Dr. Bimal Ch Deka, Professor, EE**
   2. **Kumari Nutan Singh, Assistant Professor, EE**
   3. **Dr. Namita Boruah, Assistant Professor, EE**