Course Type	Course Code	Name of the Course		Т	Р	Credits
DP	<b>EEC273</b>	<b>Control and Measurement Lab.</b>	0	0	2	2

## **Course Objective**

The objective of this lab is to introduce undergraduate students to the basic practical aspects of control system and electrical measurements.

## Learning Outcomes

Upon successful completion of this course, students will develop:

- an idea about the basics of control system.
- an idea about the different methods of electrical measurements.

Unit No.	Topics to be Covered	Laboratory Hours	Learning Outcome
1	Experiments on LVDT and DC servomotor	2x2	Students will learn performance characteristics of LVDT and DC servomotor
2	Experiments on temperature control system and PID controllers	2x2	Students will learn on temperature control system and effect of PID controller gains
3	Experiments on sychro transmitter- receiver and three-phase AC circuits	2x2	Students will learn sychro transmitter- receiver, and measurement of active and reactive power in three-phase AC circuits
4	Experiments on different measurement bridges	2x2	Students will learn different measurement bridges
5	Experiments on ADC and DAC	2x2	Students will learn A/D and D/A conversion techniques

## **Text Books:**

- 1. K. Ogata Modern Control Engineering.
- 2. Electrical Measurements and measuring instruments -- E. W. Golding, F C Widdis

## **Reference Books:**

- 1. B. C. Kuo Automatic Control Systems.
- 2. N. S. Nise Control Systems Engineering.
- $3. \quad I. \ J. \ Nagrath \ and \ M. \ Gopal-Control \ Systems \ Engineering.$
- 4. Modern Electronic Instrumentation and Measurement Techniques --Helfrick , Cooper
- 5. Elements of Electronic Instrumentation and Measurement Technique -- J J Carr