Course Number and Name
BEE5L1 &Control Systems Laboratory
Credits and Contact Hours
2&45
Course Coordinator's Name
Dr.V.Jayalakshmi
Text Books and References

Text Books:
Lab manual
References:
1. LAB manual prepared by Department of Electrical & Electronics Engineering
2. http://www.mathworks.com/access/helpdesk/help/toolbox/control/

Course Description

To introduce control system lab experiments using hardware and software tools which provide path towards the engineering applications.

Prerequisites	Co-requisites
Nil	Control system

required, elective, or selected elective (as per Table 5-1)
Required

Course Outcomes (COs)

CO1: Ability tounderstand andanalyze the impact of PIDcontrollers on linear system.
CO2:.Ability to conduct control system experiments andanalyze the concepts
CO3:Ability to design compensators
CO4: Ability to determine control system's parameters and transfer function parameters.
CO5: Ability to use Matlab software for control system concepts.

Student Outcomes (SOs) from Criterion 3 covered by this Course

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1	M			H	M				M			M
CO2	M			H	M				M			M
CO3	M		M	H	M				M			M
CO4	H			H	M				M			M
CO5	M			H	H	H			H			H

LIST OF EXPERIMENTS

1. Determination of transfer function parameters of a DC servo motor.
2. Determination of transfer function parameters of AC servo motor.
3. Effect of P, PI and PID controllers on second order system.
4. Digital simulation of linear systems
5. Design of lag and lead compensators.
6. Closed loop control system
7. Stability analysis of linear systems.

8. Synchro Transmitter and Receiver characteristics.
9. MATLAB programming
   a. Determination of Transfer function from poles and zeros.
   b. Determination of Poles and zeros from transfer function.
   c. Step and ramp response of first order system.
10. Simulation of second order system using MATLAB
11. Bode, Root Locus, Nyquist plots of Linear Time Invariant system using MATLAB.