Galgotias College of Engineering and Technology
1, Knowledge Park-II, Greater Noida, 201306(Uttar Pradesh)

Department: Electrical and Electronics Engineering

List of Experiment

CONTROL SYSTEM LABORATORY

KEE-552

Note: Minimum 10 experiments are to be performed from the following list:

1. To determine speed-torque characteristics of an AC servomotor.
2. To study
   i) Synchro Transmitter characteristics.
   ii) Obtain Synchro Transmitter – Receiver output vs input characteristics.
3. To determine response of first order and second order systems for step input for various values of constant 'K' using linear simulator unit and compare theoretical and practical results.
4. To study characteristics of positional error detector by angular displacement of two servo potentiometers.
5. To simulate and compare the response of 2^{nd} order system with and without lead, lag, Lead- Lag compensator / simulate PID controller for transportation lag.
6. To study P, PI and PID temperature controller for an oven and compare their characteristics.
7. To study performance of servo voltage stabilizer at various loads using load bank.
8. To study behavior of separately excited dc motor in open loop and closed loop conditions at various loads.

Software based experiments (Scilab /MATLAB or any equivalent open source software**)**

9. To determine time domain response of a second order system for step input and obtain performance parameters.
10. To convert transfer function of a system into state space form and vice-versa.

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LIST OF EQUIPMENT **CONTROL SYSTEM LABORATORY** **KEE-552**
DC Position Control System
Performance of Servo Voltage Stabilizer
Characteristics of Positional Error Detector
Potentiometer Error Detector
Speed Torque Characteristics of an AC Servomotor Kit
Synchro- Transmitter Receiver Kit
Linear System Simulator Kit
P, PI, PID Temperature Controller for an Oven Kit
Compensation Design Kit