EE8511 CONTROL AND INSTRUMENTATION LABORATORY

DETAILED SYLLABUS

OBJECTIVES:

- To provide knowledge on analysis and design of control system along with basics of instrumentation.

LIST OF EXPERIMENTS

CONTROLSYSTEMS:

1. P, PI and PID controllers

2. Stability Analysis

3. Modeling of Systems – Machines, Sensors and Transducers

4. Design of Lag, Lead and Lag-Lead Compensators

5. Position Control Systems

6. Synchro-Transmitter- Receiver and Characteristics

7. Simulation of Control Systems by Mathematical development tools.

INSTRUMENTATION:

8. Bridge Networks –AC and DC Bridges

9. Dynamics of Sensors/Transducers

(a) Temperature (b) pressure (c) Displacement (d) Optical (e) Strain (f) Flow

10 Power and Energy Measurement

11 Signal Conditioning

(a) Instrumentation Amplifier

(b) Analog – Digital and Digital –Analog converters (ADC and DACs)

12 Process Simulation