MECHATRONICS LABORATORY

Laboratory	: Mechatronics Laboratory
Laboratory In-charge	: Dr.C.Manickam
Technical supporting staff	: Mr.T.Karthi
Area of the laboratory	: 13.9*9.8 Sq.M

Major Equipments:

- Basic pneumatic trainer kit
- Electro pneumatic trainer kit Linear variable displacement transducer
- Electro pneumatic trainer kit with PLC.
- PID Controller interfacing kit (Temperature control)
- Servo controller interfacing for open loop And closed loop (Winpro Lader software)
- Process Control Trainer(Flow/Pressure/Temperature)
- Automation studio software version 5.7(5 user) and input/output interface
- Lab view Software version 4 and 5 user
- Stepper motor interfacing with 8051 microcontroller with stepper motor

Major Experiments:

- Design and testing of fluid power circuits to control Force of double acting actuators.
- Design and testing double acting cylinder using double Solenoid valve.
- Design and testing the Circuits with multiple cylinder sequence using double and single acting cylinder.
- Test and check the Ac servo controller – open loop controller (without feedback).
- Test and check Ac servo controller – closed loop (feedback controller).
- Design and Check Temperature controller.
- 8051- Control applications-stepper motor interface.
- Design the room temperature controller using lab view.
- Thermal cycle fatigue of ceramic plate
- Flow controller using multi process.
- Pressure controller using multi process.
- Designing a electro pneumatic circuit for single cycle double Acting cylinder using 5/2 dcv – solenoid operated
- Designing an electro pneumatic circuit for multi cycle double acting cylinder using 5/2 dcv – solenoid operated, reed switches & relays
- Designing an electro pneumatic circuit for multi cycle automation of multi cylinder using cascading method
- Test the logic gate Functions using Lab view.
- Designing a Circuit for controlling speed of DAC Using Meter-in Valve
- Designing a Circuit for controlling speed of DAC Using Meter-out Valve

Software used:

- Lab View
- Automation Studio