

## Relay Logic Control & Sensorics

### Objectives:

The participants should be able to understand the physical parameters, symbols, construction and functions of various Sensors. The participants should be able to understand the different types of switches. Participants should be able to make circuit using sensors & relays on the training rig.

### Content:

- Concept of NO, NC & their Implementation.
- Theories & Practices with Toggle Switch, Push button switch, Limit switch, Selector Switch.
- Working with Relay Logic Control
- Concept of Inching, Latching & Interlocking
- Timer Application Electrical control circuit.
- Design of Automatic Starter Control for motor with Relay Logic Control
- Working principle of different sensors
- Operating range & reduction factor of different sensors
- Automatic forward-reverse of motors using sensors & relays
- Level detection & control using sensors & relays

Duration: 30 Hrs, During 3<sup>rd</sup> Sem (2.5Hrs X 12 classes)

Evaluation: Theory and Practical Exam

### Teaching & Learning Media:

- Multimedia Presentation
- Cut-section & transparent models
- Sample units & power units
- PC Animation & E-learning
- Web-trainers

Registration: Through SSEPL Skills

## Hydraulics, Pneumatics, Electro-Pneumatics & Electro-Hydraulics

### Objectives:

The participants should be able to understand the physical parameters, symbols, construction and functions of various Hydraulics & Pneumatics components. Participants should be able to make simple Hydraulic & Pneumatic circuit on the training rig. Participants should be able to read, analyse and understand fundamental of Hydraulic & Pneumatic circuits.

### Content:

- Applications of Hydraulic & Pneumatic Technology in industrial Automation
- Advantages & Disadvantages of Hydraulic & Pneumatic System
- Theories & Hands on practices of Various Directional & Pressure control Valves
- Theories & Hands on practices of Flow control Valves, Various Actuators
- Control of Hydraulics & Pneumatics using electrical components
- PLC based control of Hydraulics & Pneumatics
- Detailed discussion on Hydraulics Symbols Simulation Software

Duration: 30 Hrs, During 4<sup>th</sup> Sem (2.5Hrs X 12 classes)

Evaluation: Theory and Practical Exam

### Teaching & Learning Media:

- Multimedia Presentation
- Cut-section & transparent models
- Sample units & power units
- PC Animation & E-learning
- Web-trainers

Registration: Through SSEPL Skills