

## **Basic Hydraulics & Pneumatics**

### **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
- Detailed discussion on Hydraulics Symbols Simulation Software

**Duration:** 30 Hrs, During 5<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

## 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 Electro-Hydraulic & Electro-Pneumatic Technology in industrial Automation
- Theories & Hands on practices of Various Directional & Pressure control Valves using solenoid
- 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