



*Mukesh Patel School of Technology,  
Management and Engineering,  
Shirpur Campus*

*Presents*

*3 Days Short Term Training Programme on*

## **Basic Hydraulics & Pneumatics**

**(8<sup>th</sup> May – 10<sup>th</sup> May 2017)**

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**BOSCH CENTRE FOR  
EXCELLENCE IN  
AUTOMATION,**

**SVKM'S NMIMS UNIVERSITY,  
MPTP, SHIRPUR**

### For Whom

- Manufacturing, Design, Automation, Control, and Maintenance Engineers, ITI technicians
- Academic students and Teachers in Mechanical, Electronics, Automation, Robotics and Mechatronics Engineering as well as Pharmaceutical sciences.

### Where

- At the BOSCH Centre of Excellence in Automation, at the **NMIMS Shirpur campus**, a Rupees 5-crore facility completely equipped with modern engineering workstations, working robots and a live Mechatronics assembly line

### Course Objective

- Introduction to Fluid power, the basic principles and the importance of pressure, flow and speed
- Explaining the advantage of fluid power, it provides examples of applications.
- Understand the relevant theory (units, flow, pressure, temperature, forces)
- Understand the operation of hydraulics & pneumatics circuits and components typically used in industry
- Hands on practices on hydraulic and pneumatic systems.

### Faculty

A team of senior NMIMS faculties and technical assistants with interdisciplinary background with

extensive theoretical and hands-on training experience at the BOSCH-Rexroth Centre of Industrial Automation at Mysore, and at BOSCH-Rexroth Centre in Germany.

### Course Material

In order to help participants to understand the concepts discussed better, a summary of contents will be provided at the beginning of each lecture.

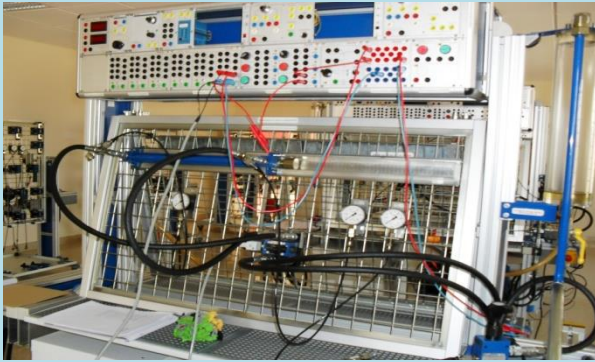
### About SVKM's NMIMS & MPSTME

The institution, established in the year 1981 as Narsee Monjee Institute of Management Studies (NMIMS), began its journey offering Master's Degree Programme in Management Studies. Today it stands as a large, imposing Institution (Deemed to be University) with eight specialized schools and off campus centers, with an intake of about 8000+ students and 400+ full time faculty members.

Founded in 2007, the Shirpur Campus of NMIMS has wholly materialized the university's vision to be a vibrant and innovative centre of education, research, executive training and consultancy in management, technology, pharma, sciences and other emerging areas of higher education.

MPTP Shirpur campus is equipped with world class educational facilities and newest additions are a CNC equipped workshop and BOSCH Rexroth Centre for Excellence in Automation.

## Module 1: Hydraulics



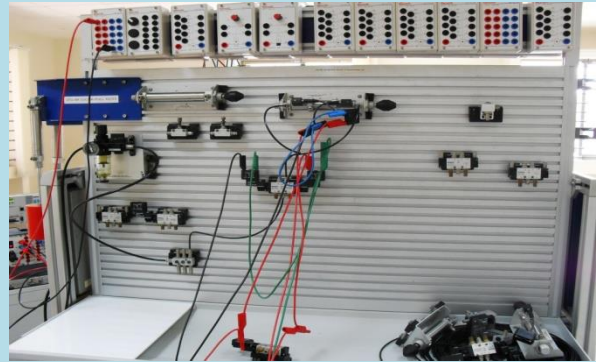
### Course Coverage:

- Fluid flow fundamentals
- Components of hydraulic systems—pumps, motors, and accumulators
- Energy and Controlling parameters of hydraulics systems.
- Use of different valves (Direction control valve, pressure and flow control valve)
- Working of electromechanical relays.
- Construction of electrical ladder diagram.
- Hydraulic circuit building
- Real time applications of hydraulics.
- Circuit Building and design for industrial applications
- Maintenance of hydraulic systems

### Typical Application Areas

Heavy equipment, Excavators, Hydraulic cranes, Material handling equipment, Jacks, Brakes, etc.

## Module 2: Pneumatics



### Course Coverage:

- Introduction of Pneumatics and its application.
- Characteristics of Industrial Pneumatics.
- Pneumatic circuit building
- Construction of Electrical ladder diagram.
- Direct and indirect control of cylinders
- Signal processing in pilot operated pneumatic circuits.
- Sequential operations for different Automation tasks.
- Pneumatic timers
- Use of logic elements and limit switches

### Typical Application Areas

Packaging, Hazardous processes, Clean Processes, Pharmacy, Food processing, Mechatronics, Robots, etc.

Last date of registration: - 25<sup>th</sup> April 2017.

Registration fees (Including Accommodation and Working lunch):-

For Academicians – Rs 2500 /-

For industry persons – Rs 3000 /-

For Research Scholars and Students – Rs 2000 /-

### How to Reach Shirpur

By Train—Bhusawal or Chalisgaon → Dhule

By Road—NH3 Mumbai-Agra Highway

By Air—Indore and then by road (200 km)



### Contact Persons:-

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