

FOR WHOM

- Manufacturing, Design, Automation, Control and Maintenance Engineers
- Academics and teachers in Mechanical, Electronics and Control Engineering, Automation, Robotics and Mechatronics

WHEN

- **Hydraulics:** January 27-29, 2014
- **Pneumatics:** February 22-24, 2014
- **PLC and Sensorics:** March 22-24, 2014

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

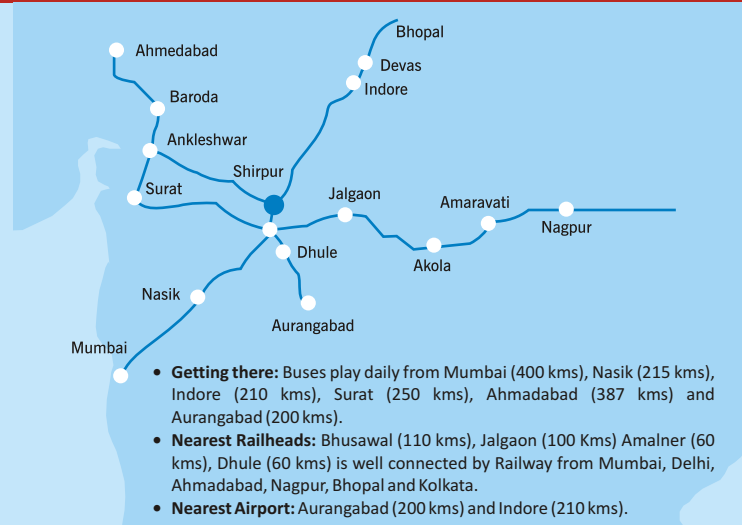
- To help and bridge the gap between formal education in automation and the demand of Industry
- To cover basics as well as control system design technologies to ensure industry's return on investment in automation is assured
- To provide both engineering concepts, interaction with experts and hands-on exercises in over 20 hours—**in three modules**

FACULTY

A team of senior NMIMS faculties and technical assistants with interdisciplinary background and extensive theoretical and hands-on training done 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. A text on Robotics is included.



REGISTRATION FORM

Name in Capital: _____

 Designation: _____
 Organization's Address: _____

 PIN Code: _____ Ph: _____
 Mob. No.: _____
 E-mail ID: _____

Fee includes Course Materials, and Board and Shared Lodging in students residence.

Save! If you register for all three modules, the total fee is Rs. 20,000/-.

Mail with draft in favour of **SVKM'S NMIMS** to **Prof. S. S. Patil**, Course Coordinator, **BOSCH Automation Program, SVKM'S NMIMS** Shirpur Campus, NH3 Bombay-Agra Road, Shirpur, Dt. Dhule, MH 425405 • Shashikant.patil@nmims.edu Mobile: 09689842277. Tel.: 2563-286545-51

presents

World Class hands-on training in Automation

on

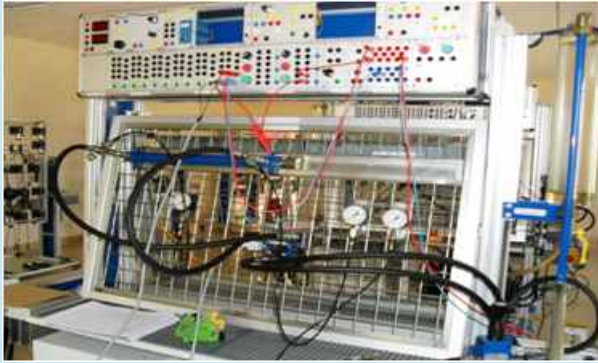
Original German BOSCH Equipment

at

BOSCH Centre of Excellence in Automation, SVKM'S NMIMS University, Shirpur



Mosaic Design Ideas



Module 1: Hydraulics

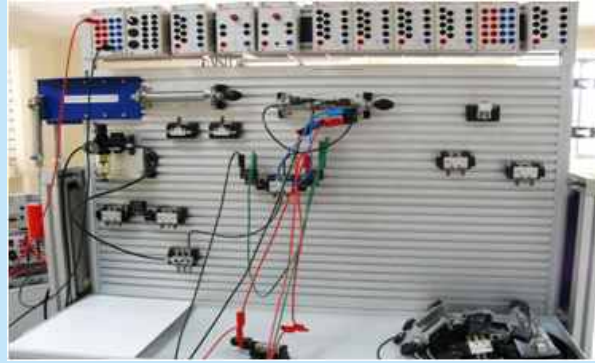
January 27-29, 2014
Course Fee: Rs. 7500.00

COURSE COVERAGE

- Fluid flow fundamentals
- Components of hydraulic systems-pumps, motors, valves and accumulators
- Hydraulic circuit building
- Maintenance of hydraulic systems

TYPICAL APPLICATION AREAS

Heavy Equipment, Excavators, Hydraulic cranes, Material Handling equipment, Jacks, Brakes, Steel Making and Primary Metal Extraction, Plastic Processing Machinery, Machine Tool Industry, Agricultural Tractors, Earth Moving Equipment, Vehicles and Industrial Tractors, Furnace Equipment



Module 2: Pneumatics

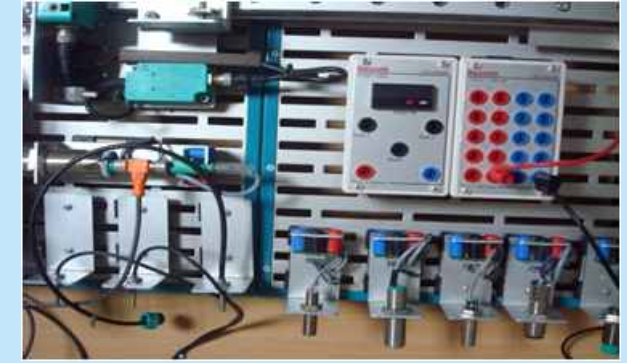
February 22-24, 2014
Course Fee: Rs. 7500.00

COURSE COVERAGE

- Introduction of Pneumatics and its application
- Pneumatic circuit building
- Direct and indirect control of cylinders
- Signal processing in pilot operated pneumatic circuits
- Pneumatic timers
- Use of logic elements and limit switches

TYPICAL APPLICATION AREAS

Clean Processes, Pharmacy, Food Processing, Mechatronics, Robots, Wood Industry, Paper Industry, Printing and Processing Machines, Automation Technology, Automobile Industry, Packaging, Hazardous Processes, Pharma, Mechatronics, Robots



Module 3: PLC Programming and Sensorics

March 22-24, 2014
Course Fee: Rs. 7500.00

COURSE COVERAGE

- Interfacing to the PLC, the drive and the operating panel
- Creating new variables
- Creating new teach points
- Input of motion programs
- Programming a complete motion sequence
- Troubleshooting

TYPICAL APPLICATION AREAS

Process Automation, Sequencing, Repetitive Execution of Tasks, Assembly Line Operation, Continuous Bottle-filling System, Batch Mixing System, Speed Control of DC Motor, 3-stage Air Conditioning System, Automatic Frequency Control Of Induction Heating, Every Automation Industry Including Automobile, Pharma and Electronics, Power Generation