

## 3 Days Training program on Industrial Communication Interfaces & Protocols (28-30 April 2016 at Hyderabad, Telangana, India)

### Training programme Overview

<b>Title</b>	<b>Industrial Communication Interfaces &amp; Protocols</b>
<b>Dates &amp; Duration</b>	03 Days; 28-30 April 2016
<b>Location</b>	SAN Techno Mentors Pvt Ltd, Hyderabad, Telangana
<b>Description</b>	<p>Industrial communication and networking is the life line of modern industry. It permits seamless data transfer and control in a network of interconnected devices, controllers and computers spread over a wide geographical area.</p> <p>This is an introductory course on industrial communication and networking. The course begins with basic concepts of communications, discuss networking and industrial networks. The course progresses to discuss in detail the widely used industrial automation interfaces and protocols like Serial communication, 4-20 mA current loop, HART, MODBUS, Foundation Field bus (FF), PROFIBUS, Ethernet and TCP/IP, etc. The course also introduces basic concept of OPC and ISA S-95 model of industrial / plant floor communication and data exchange.</p> <p>The course presents a total balance between theory and practical examples that will help the participants in better understanding of Industrial communication and networking.</p>
<b>Objectives</b>	<p><b>Upon completion of the course the participant will be able to:</b></p> <ul style="list-style-type: none"> <li>● Understand basic communication concepts</li> <li>● Understand ISO OSI 7 layer communication structure</li> <li>● Understand ISA S-95 model of industrial / plant floor communication and data exchange.</li> <li>● Have exposure to connectivity of industrial devices</li> <li>● Have basic knowledge of network and its components</li> <li>● Have knowledge of widely used interfaces and protocols like             <ul style="list-style-type: none"> <li>○ Serial communication RS232 , RS 485</li> <li>○ 4-20 mA current loop</li> <li>○ HART</li> <li>○ Foundation Fieldbus</li> <li>○ MODBUS</li> <li>○ PROFIBUS</li> <li>○ Ethernet and TCP/IP</li> <li>○ Devicenet, Controlnet &amp; Ethernet-IP</li> </ul> </li> <li>● Have introduction to OPC</li> </ul>
<b>Who should Attend</b>	The course is designed for Electronics, Electrical, and Instrumentation engineers and also for all those interested in working in the field of industrial communications and networking.

-----SAN Techno Mentors Pvt Ltd.-----

**3 Day`s 28-30<sup>th</sup> April, 2016 at Hyderabad, Telangana, India)**

**Course  
Outline**

**Module 1**

- Introduction to communication
- Hierarchical Structure of Process Automation and Communication Need
- Brief review ISO/OSI 7 layer communication model

**Module 2**

- Serial Communication RS 232 and RS 485
- MODBUS (ASCII, RTU & TCP/IP) Protocols
- Introduction to Ethernet and TCP/IP

**Module 3**

- 4-20 mA Standard Current loop
- HART communication Protocol
- Foundation Fieldbus (FF) Protocol
- PROFIBUS
- Devicenet, Controlnet & Ethernet-IP

**Module 4**

- ISA S-95 model for industrial communication
- Introduction to Object Linking & Embedding for Process Control (OPC)

**Notes:**

Demonstration of communication interfaces and protocols is planned as follows:

1. RS232 Communication
  2. RS232 to RS 485 Converters Pair Communication
  3. Modbus RTU Communication
  4. Modbus TCP/IP Communication
  5. Ethernet to FO Converters Pair Communication
  6. OPC Communication
- Tutorial / Discussion on industrial applications and selection of communication technology is planned Presentation on interface and protocol converters is planned to get an idea of variety of products available in the market

**3 Day`s 28-30<sup>th</sup> April, 2016 at Hyderabad, Telangana, India)**

### Registration Details:

**Dates of the program:** 28-30 April 2016 (Thursday-Saturday), Hyderabad, Telangana.

**Participation Fees:** Rs. 18000 + ST, per delegate (Training program includes training material hard/soft copies, tea, Snack & lunch excluding lodging & Boarding)

**Payment:** ECS/NEFT/DD in favor of “SAN Techno Mentors Private Limited.”  
Payable at Pune, Maharashtra, India. Account details will be provided for ECS.

**Venue:** Somajiguda, Hyderabad, Telangana, India.

*For Registration, please do contact to,*

*We prefer on line Registration through our web [www.cisat.co.in](http://www.cisat.co.in) [cisat.nagpur@gmail.com](mailto:cisat.nagpur@gmail.com)*

1. Mahendra Dhande +91-9168326662; +91-7709012815
2. Mrs Sphoorti Govade; 020-25455935; 020-65000982

Online registration form can be filled available on web page.

**Professional Trainer: Mr . Sudhir Panditrao**  
**Expert: Instrumentation and Control**



#### **Education**

##### **Bachelor of Engineering**

(Instrumentation and Control), College of Engineering Pune, 1985

##### **Master of Engineering**

(Instrumentation and Control), College of Engineering Pune, 2003

Specialisation: Process Instrumentation

#### **Professional Experience**

Over 29 Years

#### **Profile**

**Sudhir is the CEO and Director of SAN Techno Mentors Pvt. Ltd.**

During his professional career spanning over 29 years, Sudhir has worked in the areas of instrumentation and automation design, detailed engineering, projects, installation and commissioning at site for variety of industry applications. He has also worked as a director for process control and computer peripherals manufacturing company mainly supplying to major automation manufactures. **He has experience of working in the Middle East as a profit centre head** that included international projects, sales and marketing in instrumentation and industrial packaging. He has worked as a consultant to various leading international organizations viz. Tata Honeywell, Eureka Industrial Equipments, Thermax etc.

His passion for teaching / training goes way back with his association with academic institutions since 1988. He has been a visiting faculty at the Government College of Engineering Pune (COEP) and the Department of Instrumentation Science at the University of Pune. He played a key role in launching and conducting training programmes for industry professionals

### **3 Day`s 28-30<sup>th</sup> April, 2016 at Hyderabad, Telangana, India)**

and students at COEP. His continued passion saw him establish SAN Techno Mentors in 2007 – a company focussed on providing training and consultancy in various engineering areas.

He has worked as an Asst. Professor with one of the leading technical institutes and has published many papers. He is associated with number of institutes as a visiting faculty and is a member of board of studies and postgraduate recognized teacher at University. **He has presented a paper at IEEE Conference on Advance Process Control at Vancouver, Canada in May 2005.**

Sudhir has carried out training in India and abroad in the areas of instrumentation, industrial automation, PLC, DCS, SCADA, advanced process control, automation project engineering etc. for many professionals, students and professors from several leading companies, engineering colleges and institutes.

He is an associate faculty for TUV Akademie, Middle East for conducting training programmes in the middle and far east. **He has conducted many training programmes for participants from oil & gas, petrochemical, power, water & waste water industries from India and Middle East including following:**

Dubai Electricity & Water Authority (DEWA)  
Abu Dhabi Water & Electricity Authority (ADWEA)  
Zakum Development Company (ZADCO)  
Abu Dhabi Company for Onshore Oil Operation (ADCO)  
Kuwait National Petroleum Company (KNPC)  
Qatar Petroleum (QP)  
Qatar Chemical Company (QCHEM)  
Saudi Electricity Company  
Larsen & Toubro (L & T)  
Reliance Industries Ltd.  
Jindal Steel & Power Ltd. (JSPL)  
Welspun Corporation  
Vedanta Aluminium Ltd.  
Thermax

**Sudhir has also conducted many Continuing Education Programmes for faculties from many universities and engineering colleges.**

Sudhir has been a speaker in many international conferences in his expertise area.

**Having worked in both industrial and academic worlds Sudhir has a unique proposition to conduct training for faculty, students and industry professionals.**