

Theory - Background - Basic Knowledge Entry Level: 3 Days

Day 1	
1 Introduction	<ul style="list-style-type: none"> ✚ Basic concepts in Instrumentation & control ✚ Overview of Pressure, levels, temperatures and flows ✚ Control Valves
2 Introduction to Instrumentation & Process Control	<ul style="list-style-type: none"> ✚ Process Measurements ✚ Evaluation & Control ✚ Examples of Drawings
3 Introduction to Process Control & loops	<ul style="list-style-type: none"> ✚ Block diagrams ✚ Process controller
4 Process Characteristics	<ul style="list-style-type: none"> ✚ Theoretical concepts of Physical systems ✚ Electrical, liquid thermal

Day 2	
1 Pressure Measurements	<ul style="list-style-type: none"> ✚ Gauge and absolutes Manometer ✚ Pneumatic or mechanical Pressure Sensor & Transmitter ✚ Pressure Engineering units
2 Level Measurements	<ul style="list-style-type: none"> ✚ Gauge glass level measurement ✚ Electrical & Electronic level sensor ✚ Remote display level indicator ✚ Level Engineering units
3 Temperature Measurements	<ul style="list-style-type: none"> ✚ Temperature Gauges ✚ Types of Sensors ✚ Temperature Engineering Units

Day 3	
1 Flow Measurement	<ul style="list-style-type: none"> ✚ Types of flow techniques ✚ Flow Engineering units
2 Analytical Measurement	<ul style="list-style-type: none"> ✚ Conductivity, pH, Do and humidity measurement ✚ Gas Analysis ✚ Measurement applications
3 Final Control Elements	<ul style="list-style-type: none"> ✚ Control Valve ✚ Pump Control ✚ Agitator ✚ Louver Control ✚ Inverter

Note : Intermediate and Advanced Level Courses are available as per request.

Process Instrumentation, Calibration & Verification 3 Days	
Day 1	
1 Introduction	<ul style="list-style-type: none"> ✚ Process Instrumentation & measurement ✚ Why Calibration ? ✚ What is Metrology? ✚ Calibration Standards & Procedures
Day 2	
2 Calibration(s)	<ul style="list-style-type: none"> ✚ Calibration of Temperature ✚ Calibration of Pressure ✚ Calibration of Flow ✚ Calibration of Electrical Signal
Day 3	
3 Calibration(s)	<ul style="list-style-type: none"> ✚ Calibration of Weight ✚ Calibration of Humidity ✚ Wet & Dry Calibration ✚ Verification ✚ Calibration Management & Software

Control Valve Theory Maintenance & Testing 3 Days	
Day 1	
1 Introduction	<ul style="list-style-type: none"> ✚ Control Valve ✚ Control Valve Terms, Codes and Standards ✚ Control Valve Body & trim Material Selection ✚ Control Valve Actuators
Day 2	
2 Accessories & Selection	<ul style="list-style-type: none"> ✚ Hand Wheel, Solenoid Valve ✚ Sizing, Noise, Cavitation ✚ Application & Safety ✚ Installation & Commissioning
Day 3	
3 Service & Troubleshooting	<ul style="list-style-type: none"> ✚ Body & Seat Leakage Testing ✚ Positioner Calibration ✚ Maintenance

Boiler Instrumentation Operation & Maintenance 4 Days	
Day 1	
1 Introduction	<ul style="list-style-type: none"> ✚ Basics & Various Types ✚ Types of Steam & its Application ✚ Heat Transfer & its applications ✚ Identifying Boiler Auxiliary or Support Equipment.
Day 2	
2 Boiler Utilities	<ul style="list-style-type: none"> ✚ Feed water system Instrumentation & Control ✚ Draft & Combustion Instrumentation & Control ✚ Local Indicators & Control Equipment
Day 3	
3 Operation	<ul style="list-style-type: none"> ✚ Steam Boiler Instrumentation Operation ✚ Boiler Safety & Protection ✚ Maintenance & preparation for inspection ✚ Conversion Steam Boiler
Day 4	
4 Operation	<ul style="list-style-type: none"> ✚ Deaerator For Feedwater instrumentation & Control ✚ Conventional Condensate Recovery instrumentation & Control ✚ Steam Regeneration, Flash Vessel, Boiler blowdown instrumentation & Control

IPC Customer Reference



TENAGA NASIONAL BERHAD
 +Sultan Iskandar Power Station,
 Pasir Gudang
 +Power Station Gelugor, P.Pinang



YTL POWER
 IPP, Pasir gudang



CAHYA MATA SARAWAK

CMS Clinker Sdn Bhd
 A Sarawak's sole clinker manufacturer and trader. Owned by CMS Cement Sdn Bhd, which is part of the Cahya Mata Sarawak Group of companies



Engineering and Technological University



Western Digital
 US based hard disk drive (HDD) manufacturer



a subsidiary of **mt sc**



CABOT

Cabot (Malaysia) Sdn Bhd A company that serving the carbon black needs of tire, industrial rubber manufacturers in Malaysia and Asia Pacific markets.



Esterol Sdn Bhd

Food emulsifiers Manufacturer, subsidiary of Kerry Group plc.



POLIMAS



Institut Latihan Perindustrian, Kepala Batas



RIKEVITA (MALAYSIA) SDN BHD

The first overseas plant of **RIKEN VITAMIN of Japan**



IOI GROUP

IOI Edible Oils Sdn Bhd
IOI Bio Energy Sdn Bhd



Norsechem (Sabah) Sdn. Bhd



KERTIH TERMINALS
 Leading tank terminal company for **PETRONAS** Petrochemical Integrated Complex



Ranhill

An oil and gas production, infrastructure investment, power plant design & engineering & industrial water treatment company



JIMAH O & M SDN BHD
 IPP Port Dickson, Negeri Sembilan



Produce of beer & Stout include Tiger and Heineken brand



Cyctec Industries

US-based specialty chemicals manufacturer



CHEMICAL COMPANY OF MALAYSIA



Kemaman Bitumen Company Sdn Bhd

operating an oil refinery in Kemaman, Terengganu, primarily to produce bitumen and other oil products



PETRONAS GAS BERHAD



Sarawak Shell Berhad



Continental Tyres
 A wholly owned subsidiary of Continental AG & 4th largest tyre manufacturer worldwide



Technip
 take it further. is a world leader in project management, engineering and construction for the energy industry.



Palm Oleo Rawang Sdn Bhd

a leading global player in oleochemical industry, producing a wide range of vegetable oil-based.



A member of **UEM Group**

Kualiti Alam-Seremban
 The Trusted Partner in Environmental Solutions



Dupont Danisco
 Specialty for Bioprotein Food Industry

Southern Acids (M) Berhad

Oleochemical producer and a Southern Group of companies.



MNFSB is a subsidiary fertilizer company of **NAFAS (Pertubuhan Peladang Kebangsaan)**



Royal Australian Air force



Lynas CORPORATION LTD



Emery
 One of the world's largest Oleochemicals producer with a worldwide distribution.



Enriching lives through innovation

Huntsman Pigments



Malayan Sugar Manufacturing Co Bhd

incorporated with the mission to set up a sugar refinery in Malaysia.



B. Braun Medical Industries Sdn Bhd
 a worldwide company that supplying surgical, pharmaceutical and healthcare management products.



M3ENERGY FPSO Perintis

Oil & Gas Exploration and Production services Company