



Ascendent Technology Sdn. Bhd.
(1093652-W)



Applicable



SBL Claimable

Temperature Calibration



TEMPERATURE INSTRUMENT CALIBRATION (Competency Training)

PROGRAMME OVERVIEW:

This calibration training module is designed to meet ISO quality management system requirement include ISO 9001, ISO14001, IATF 16949, ISO 22000, ISO/IEC 17025, GMP, HACCP and other quality management systems. The calibration procedure is based on EURAMET-cg11. This module includes the evaluation of measurement uncertainty base on ISO Guide to the expression of uncertainty in measurement (GUM).

TARGET GROUP:

Quality Managers, Technical Managers, Laboratory Managers, Supervisors, Chemist, Engineer, Signatories of test reports & certificates, Laboratories Personnel.

OBJECTIVE:

At the end of the course, participants are expected to:

- 1) Able to perform calibration of temperature indicator, controller, recorder and temperature data logger base on simulation technique EURAMET-cg11
- 2) Understand differences between various principles of measuring temperature for example thermoelectricity and resistance thermometry
- 3) Understand various types of thermocouples for example types K, N, T, S, J, R and their applications
- 4) Understand resistance thermometer for example Pt100 and its input terminals
- 5) Perform calibration independently
- 6) Perform necessary calculations include uncertainty estimation based on ISO Guide [according to the model given only]
- 7) Able to generate ISO quality management system accepted calibration report

CONTENT:

- 1) Principle of metrology and ISO requirement on calibration.
- 2) Understand the equipment and its use
- 3) Measurement of temperature by Thermoelectricity and Resistance
 - ✓ Application laws of thermocouples
 - ✓ Measurement of thermal EMF
 - ✓ Types of thermocouples
 - ✓ Thermoresistive elements and resistance thermometers
 - ✓ Construction of Pt100 input (3 wire, 4 wire)
- 4) Care and Maintenance of the equipment
 - ✓ Temperature controller
 - ✓ Temperature indicator
 - ✓ Temperature recorder
- 5) Calibration, Calculation and Interpretation
 - ✓ Step by step procedure based on EURAMET cg-11.
 - ✓ Hands-on practice
 - ✓ Perform necessary metrological calculation.
 - ✓ Estimate uncertainty of test base on ISO Guide.
 - ✓ Draft calibration certificate and Interpretation
- 6) Work example

METHODOLOGY :

Lectures, discussion, demonstration, hands-on practice and practical exercises

CERTIFICATE :

Candidate is required to complete an assessment either on day 2 or within 2 weeks after the training is conducted.

- ✓ Certificate of competency - achieves score point 70% and above
- ✓ Certificate of attendance - achieves score point below 70% or no submission of assessment

REMARK:

- 1) Candidate is advisable to bring tumb drive or notebook.
- 2) Candidate need to bring along their scientific calculator for assessment
- 3) Candidate is required to complete the assessment during training or must submitting the completed assessment within 2 weeks after the training is completed.
- 4) Certificate will be issued based on score point in the assessment.
- 5) The original marked assessment paper will return to customer together with certificate.
- 6) Candidate with poor score is advisable to re-seat for training and assessment.

CONTACT US FOR MORE DETAILS

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| <ul style="list-style-type: none"> ✧ Public Training ✧ In-House Training ✧ Customade training ✧ HRDF SBL Scheme claimable for private sector ✧ e-Perolehan applicable for government sector | <ul style="list-style-type: none"> ❖ Tel: 603-6156 0813 ❖ HP: 012-417 3813 (JOYCE) ❖ Email: training@ascendent.com.my ❖ Web: www.ascendent.com.my |
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