











BALANCE & THERMOMETER CALIBRATION (Competency Training)

PROGRAMME OVERVIEW:

This balance and thermometer calibration training module is designed to meet ISO quality management system requirement include ISO 9001, ISO14001, ISO/IATF 16949, ISO 22000, ISO/IEC 17025, GMP, HACCP and other quality management systems. It is the combination of balance calibration module and thermometer calibration module. Balance calibration procedure is according to EURAMET-cg18 and thermometer is adopted from EURAMET-cg8, ASTM E644-06 and ASTM E564-02. This module include 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:

E002

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

- 1) Acquire basic knowledge in using balance and thermometer
- 2) Perform calibration independently
- 3) Perform necessary calculations include uncertainty estimation based on ISO Guide [according to the model given only]
- 4) 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 uses

2.1 Balance

- ✓ Type of standard weights
- ✓ Care and maintenance
- ✓ Fnvironment

Method: EURAMET CG18

2.2 Thermometer

- ✓ Liquid in glass thermometer
- ✓ Electronic thermometer
- ✓ Care and maintenance
- ✓ Mending of broken column
- ✓ Environment

Method: ASTM E563 Ice Point

ASTM E220 Thermometer Calibration

- 3) Calibration instruction of Balance & Thermometer
 - > Pre calibration inspection
 - Step by step data collection with respect to metrology characteristics of balance and thermometer.
 - > Practice of at least 2 models, step by step guiding on calibration procedure
- 4) Uncertainty calculation and presenting calibration result
 - > Compare with standards
 - > Work example
- 5) Conclusion and Q & A sessions

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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- ♦ In-House Training
- ♦ Customade training
- ♦ HRDF SBL Scheme claimable for private sector
- ♦ e-Perolehan applicable for government sector
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