MTBM

MEASUREMENT & CALIBRATION SYSTEM TRAINING

MTBM Group Sdn. Bhd. (1600656-M)

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Course Title: Measurement & Calibration System Training

Course Validity: 2 Days

Validity: Not Applicable

HRD Corp Scheme: Claimable

INTRODUCTION

This course provides participants with a strong understanding of measurement principles, calibration fundamentals, equipment metrological confirmation, traceability, and control of measuring instruments used in laboratories and industrial environments. The training emphasises the importance of establishing a reliable measurement and calibration system that supports quality assurance, ISO/IEC 17025 requirements, and consistent product conformity. Participants will gain knowledge on calibration processes, measurement system analysis, equipment handling, uncertainty considerations, and documentation of calibration activities.

OBJECTIVE(S):

- Understand the principles of measurement and the role of calibration in quality and laboratory systems.
- Learn how to establish and maintain a calibration program for all measuring equipment.
- Understand traceability requirements, equipment classification, and calibration interval determination.
- Strengthen knowledge on calibration procedures, specifications, and acceptance criteria.
- Understand how to evaluate calibration data and interpret calibration certificates.
- Ability to develop calibration documentation, registers, and equipment control records.

TARGET GROUP(S):

- Laboratory Technicians & Analysts
- Calibration Technologists
- QA/QC Personnel
- Production/Engineering Personnel
- Internal Auditors & Compliance Officers

ENTRY REQUIREMENT(S):

- Able to read, write, and communicate in Malay/English
- Basic understanding of measurements or laboratory processes

TOPIC(S):

1. Introduction to Measurement & Calibration
2. Metrology Concepts & Measurement Standards
3. Traceability & Reference Standards
4. Calibration Procedures & Calibration Methods
5. Equipment Classification & Calibration Intervals
6. Calibration Data Analysis & Interpretation
7. Handling, Storage, & Maintenance of Measuring Equipment
8. Calibration Documentation & Equipment Register
9. Decision Rules, Acceptance Criteria & Conformity Assessment
10. Internal Verification vs External Calibration
11. Common Calibration Errors & Troubleshooting
12. Practical Calibration Exercises

LIST OF REFERENCE BOOK(S):

- ISO/IEC 17025:2017 Standard
- International Vocabulary of Metrology (VIM)
- ILAC & EURAMET Calibration Guidelines

LIST OF TEACHING AID(S):

- LCD projector
- Computer
- Whiteboard with accessories

METHODOLOGY(S):

- Lecture
- Group activities
- Case studies
- Hands-on calibration demonstrations

TRAINING SCHEDULE

Day 1

Time	Activity / Topic
8:30 am – 9:00 am	Registration and Introduction
9:00 am – 9:45 am	Topic 1: Introduction to Measurement & Calibration
9:45 am – 10:30 am	Topic 2: Metrology Concepts & Measurement Standards
10:30 am – 10:45 am	**Morning Tea Break**
10:45 am – 11:30 am	Topic 3: Traceability & Reference Standards
11:30 am – 12:30 pm	Topic 4: Calibration Procedures & Calibration Methods
12:30 pm – 1:30 pm	**Lunch Break**
1:30 pm – 2:30 pm	Topic 5: Equipment Classification & Calibration Intervals
2:30 pm – 3:30 pm	Topic 6: Calibration Data Analysis & Interpretation
3:30 pm – 3:45 pm	**Afternoon Tea Break**
3:45 pm – 5:00 pm	Workshop: Reviewing Calibration Certificates

TRAINING SCHEDULE

Day 2

Time	Activity / Topic
8:30 am – 9:00 am	Recap of Day 1
9:00 am – 9:45 am	Topic 7: Handling, Storage & Maintenance of Measuring Equipment
9:45 am – 10:30 am	Topic 8: Calibration Documentation & Equipment Register
10:30 am – 10:45 am	**Morning Tea Break**
10:45 am – 11:30 am	Topic 9: Decision Rules & Acceptance Criteria
11:30 am – 12:30 pm	Topic 10: Internal Verification vs External Calibration
12:30 pm – 1:30 pm	**Lunch Break**
1:30 pm – 2:30 pm	Topic 11: Common Calibration Errors & Troubleshooting
2:30 pm – 3:30 pm	Topic 12: Practical Calibration Demonstrations
3:30 pm – 3:45 pm	**Afternoon Tea Break**
3:45 pm – 5:00 pm	Final Practical Exercise & Feedback Session