

### Industrial Maintenance Electrical & Instrumentation Technician V1

#### IMEIT40

Updated June 2023

#### Focus Statement

A journey-level Industrial Maintenance Electrical & Instrumentation Technician should: have a thorough knowledge of basic electrical/electronic, pneumatic, hydraulic, and mechanical fundamentals; have a working knowledge of safety and electrical hazards; have knowledge of mechanical/electrical isolation of stored energy; identify tools, equipment, and best practices for performing electrical and instrumentation maintenance; interpret drawings, specifications, and other documents; have a thorough knowledge of both process and craft-related mathematics; maintain, repair, and install electrical and instrumentation system components; be familiar with networks and process control systems.

#### Overview

- Two-hour closed-book examination
- May use a basic function, non-printing calculator
- May use downloadable Instrumentation Formula Sheet and Electrical Formula Sheet found on the Industrial Maintenance E&I craft page of the NCCER website
- No extra papers, books, notes or study materials are allowed
- A corresponding hands-on Performance Verification is available

Minimum passing score is 75.

#### Written Assessment Contents:

Module ID	Content Domain/Module Title	Number of Items
00101-04	Basic Safety	4
00106-04	Basic Rigging	4
40103-07	Fasteners and Anchors	4
40105-07	Gaskets and Packing	4
40201-08	Industrial Safety for E&I Technicians	4
40203-08	Electrical Theory	4
40204-08	Alternating Current	4
40206-08	Flow, Pressure, Level, and Temperature	4
40207-08	Process Mathematics	4

#### NCCER Curriculum

All NCCER knowledge assessments are referenced to NCCER's curriculum modules as listed on this specification sheet. You may order books and modules from Pearson by visiting [nccer.org/order-books-modules](https://www.nccer.org/order-books-modules).

#### Assessment Development

All questions are developed and approved by subject matter experts under the direction of NCCER.

#### Credentials

Upon successful completion of the knowledge assessment, NCCER will send applicable credentials to the assessment center.

#### Score Report and Training Prescription

Each candidate will have access to their assessment results including their overall score and recommended training.

#### NCCER Registry

Knowledge assessment results are recorded in NCCER's Registry and become a part of the portable record of an individual's NCCER credentials.

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Module ID	Content Domain/Module Title	Number of Items
40209-08	Tubing	4
40210-08	Clean, Purge, and Test Tubing and Piping Systems	4
40211-08	Instrument Drawings and Documents, Part One	4
40213-08	Conductor Terminations and Splices	4
40302-09	Electronic Components	4
40303-09	E & I Drawings	4
40305-09	Distribution Equipment	4
40309-09	Layout and Installation of Tubing and Piping Systems	4
40311-09	Hydraulic Controls	4
40312-09	Pneumatic Controls	4
40402-09	Basic Process Control Elements, Transducers and Transmitters	4
40403-09	Instrument Calibration and Configuration	4
40404-09	Pneumatic Control Valves, Actuators, and Positioners	4
40405-09	Performing Loop Checks	4
40406-09	Troubleshooting and Commissioning a Loop	4
40407-09	Process Control Loops and Tuning	4
40408-09	Data Networks	4
40409-09	Programmable Logic Controllers	4
40410-09	Distributed Control Systems	4

**Total Number of Items**

**112**