



# National Craft Assessment and Certification Program S P E C I F I C A T I O N S

## INDUSTRIAL MAINTENANCE, ELECTRICAL & INSTRUMENTATION TECHNICIAN (IMEIT40)

*Released August 2010*

### Overview

This written assessment is a two-hour closed-book examination. You will be permitted to use a basic function, non-printing calculator during the examination. The assessment center will provide any necessary pencils. No extra papers, books, notes or study materials are allowed in the testing area.

### Study Material

All NCCER written assessments are referenced to NCCER curriculum listed in the content. You may order modules from Pearson (800.922.0579) or from NCCER's Online Catalog at [www.nccer.org](http://www.nccer.org).

### Assessment Development

All questions on each assessment have been developed and approved by subject matter experts from the respective craft. Assessment development and administration is under the direction of Prov<sup>TM</sup>, NCCER's testing partner.

### Training Prescription Reports

Each candidate will have access to individual results of the written assessment from Prov's website at [www.provexam.com](http://www.provexam.com). This training prescription will include the overall score and results by topic area.

### Credentials

NCCER will send appropriate credentials (certificate, wallet card and official transcript) to the assessment center upon successful completion of the written assessment.

### National Registry

Assessment results will be maintained in NCCER's National Registry and become a part of each candidate's training records. These records are stored and become a portable record of the candidate's training and assessment achievements.

### Focus Statement

A journey-level IM E & I 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 a 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 resource 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

### Written Assessment Contents:

Module Number	Module Name	Number of Questions
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
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
<b>Total Number of Questions</b>		<b>112</b>

*The minimum passing score is 75.*

*The corresponding Performance Verification is PVEIMT.*