

Industrial Maintenance Electrical & Instrumentation Technician V1

IMEIT40

Updated August 2010

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

Minimum passing score is 75.

Performance Verification

A corresponding hands-on Performance Verification is available.

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 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 or performance verification, credentials can be viewed and printed by the individual or assessment program through their NCCER Account.

Score Report and Training Prescription

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

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

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Written Assessment Contents:

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