

Industrial Maintenance Electrical and Instrumentation Technician IMEIT40

Updated November 2024

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. This assessment is referenced to NCCER's 3rd edition of the Industrial Maintenance Electrical and Instrumentation curriculum. 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	Basic Safety	4
00106	Basic Rigging	3
40103	Fasteners and Anchors	3
40103 40105	Gaskets and Packing	3

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Written Assessment Contents:

Module ID	Content Domain/Module Title	Number of Items
40201	Industrial Safety for Electrical and Instrumentation Technicians	3
40203	Electrical Theory	4
40204	Alternating Current	4
40206	Flow, Pressure, Level, and Temperature	4
40207	Process Mathematics	4
40209	Tubing	4
40210	Clean, Purge, and Test Tubing and Piping Systems	4
40211	Instrument Drawings and Documents, Part One	4
40213	Conductor Terminations and Splices	4
40302 40303 40304	Electronic Components	4
40303	Electrical and Instrumentation Drawings	3
40305	Distribution Equipment	4
40309	Layout and Installation of Tubing and Piping Systems	4
40311	Hydraulic Controls	4
40312	Pneumatic Controls	4
40402	Basic Process Control Elements, Transducers, and Transmitters	3
40403	Instrument Calibration and Configuration	5
40403 40409	Pneumatic Control Valves, Actuators, and Positioners	4
40405	Performing Loop Checks	2

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Written Assessment Contents:

Module ID	Content Domain/Module Title	Number of Items
40406	Troubleshooting and Commissioning a Loop	4
40407	Process Control Loops and Tuning	4
40408	Data Networks	4
40409	Programmable Logic Controllers	3
40410	Distributed Control Systems	5

Total Number of Items

105