

Instrumentation Technician

AEN12TINST04

Updated November 2024

Focus Statement

An Instrument Technician lays out, fabricates, installs, and performs leak testing on tubing and piping systems. The technician also installs instruments and instrument stands and interprets instrument construction drawings, specifications, and any other resource documents. The instrument technician is expected to exhibit basic mechanical and mathematical skills and to demonstrate good safety practices, especially electrical safety.

Overview

- Two-hour closed-book examination
- May use a basic function, non-printing calculator
- May use the downloadable Instrumentation Formula sheet found on the [Instrumentation 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 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
12107	Instrument Drawings and Documents, Part One	6
12108	Gaskets, O-Rings, and Packing	2
12109	Lubricants, Sealants, and Cleaners	4
12110	Temperature, Pressure, Level, and Flow	4
12111	Tubing	2
12115	Instrumentation Safety Practices	4

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Written Assessment Contents:

Module ID	Content Domain/Module Title	Number of Items
12116	Electrical Systems for Instrumentation	4
12119	Craft-Related Mathematics	4
12202	Instrument Drawings and Documents, Part Two	4
12204	Process Control Theory	4
12205	Detectors, Secondary Elements, Transducers, and Transmitters	6
12206	Controllers	1
12207	Control Valves, Actuators, and Positioners	6
12209	Switches and Photoelectric Devices	4
12210	Instrument Air Filters, Regulators, and Dryers	4
12302	Layout and Installation of Tubing and Piping Systems	3
12303	Clean, Purge, and Test Tubing and Piping Systems	4
12304	Inspect, Handle, and Store Instrumentation Materials	4
12305	Instrumentation Electrical Circuitry	4
12306	Grounding and Shielding of Instrumentation Wiring	4
12402	Instrument Calibration and Configuration	4
12410	Proving, Commissioning, and Troubleshooting a Loop	4
33205	Test Equipment	4

Total Number of Items

90