



Inspection & Testing of Water-Based Systems

Level I Content Outline

(Updated Exams Planned Release Date: June 2, 2025)

Technician Trainee

The candidates for NICET certification at Level I in Inspection & Testing of Water-Based Systems should have the knowledge, experience, and basic skills needed to work in the industry. Under the direct supervision of a qualified technician, they assist in the inspection and testing of water-based systems. Level I technicians have at least 6 months of experience in water-based systems.

1.1 Safety

(Questions related to these tasks make up 5-15% of the exam.)

- 1.1.1 Wear and maintain required PPE. 1, 2, 6
- 1.1.2 Recognize lockout/tagout (mechanical and electrical). 2
- 1.1.3 Recognize hazards (e.g., confined spaces, holes, lighting, ceilings, ladders, lifts). 1, 2, 6
- 1.1.4 Climb ladders. 2
- 1.1.5 Inspect and maintain tools, equipment, and GFCI. 1, 2, 4, 6
- 1.1.6 Recognize safety impairment issues. 1

1.2 Identify Condition and Operation of System Components

(Questions related to these tasks make up 32-43% of the exam.)

- 1.2.1 Locate and read gauges. 1, 3, 4
- 1.2.2 Locate and identify control valves. 1
- 1.2.3 Locate and identify drain and test valves. 1, 3
- 1.2.4 Visually inspect components (e.g., pipe, hangers, bracing, sprinklers, fittings, FDC, and hose connections). 1, 3
- 1.2.5 Confirm indicator position of control valve. 1, 3
- 1.2.6 Locate and identify electronic and mechanical alarm and supervisory devices. 1, 3, 5
- 1.2.7 Identify system types (e.g., wet, dry, or standpipe). 1, 3
- 1.2.8 Verify presence of fire pumps. 1, 4
- 1.2.9 Identify water supply (e.g., fire pumps, tanks, municipal supply). 1
- 1.2.10 Verify trouble, supervisory, and alarm signals. 1, 5

1.3 Prepare Preliminary Documentation

(Questions related to these tasks make up 17-27% of the exam.)

- 1.3.1 Identify correct reports for ITM tasks. 1
- 1.3.2 Inventory system components. 1
- 1.3.3 Record size, make, type, and model of sprinklers and valves. 1, 3
- 1.3.4 Prepare preliminary reports under direction of Level II or III technicians. 1

1.4 Operate Components Under Direct Supervision

(Questions related to these tasks make up 26-36% of the exam.)

- 1.4.1 Fully exercise control valves (e.g., OS&Ys, PIVs, WPIVs, and butterfly valves). 1
- 1.4.2 Test water flow alarm (e.g., water motor gong, pressure switch, and vane-type). 1
- 1.4.3 Perform main drain test. 1
- 1.4.4 Flush hydrants. 1, 3
- 1.4.5 Exercise hose connections. 1
- 1.4.6 Test electronic valve supervisory devices. 1