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PRACTICE QUESTIONS

CONNECTICUT OCCUPATIONAL TRADES

**HRX6U7LQ**

CT B2 Limited Gas/oil Burn Jrny

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

# Before you begin

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## What this is

9 practice questions for CONNECTICUT OCCUPATIONAL TRADES **HRX6U7LQ**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

## If something looks wrong

Send us three things and we will check it:

- the exam code, **HRX6U7LQ**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

**QUESTION 1**

SINGLE CHOICE

On an oil-fired furnace, which component is responsible for atomizing the fuel oil into a fine mist before it enters the combustion chamber?

- ☐ A Barometric damper
- ☒ B Oil burner nozzle
- ☐ C Cad cell
- ☐ D Stack relay

**ANSWER B**

**WHY** The oil burner nozzle is the component that atomizes (breaks into a fine spray) the fuel oil and meters the flow before combustion. The cad cell is a safety flame sensor, the stack relay is a draft sensor, and the barometric damper regulates draft — none atomize fuel.

**QUESTION 2**

SINGLE CHOICE

During combustion analysis of an oil burner, a technician observes excessive air with low CO<sub>2</sub> and a smoky, yellow flame. What is the most likely cause?

- ☒ A Too much primary air and a clogged nozzle
- ☐ B Insufficient air and a clean nozzle
- ☐ C Incorrect nozzle spray angle with correct draft
- ☐ D Proper air adjustment but a defective cad cell

**ANSWER A**

**WHY** A yellow, smoky flame with high excess air and low CO<sub>2</sub> typically indicates a problem with the burner setup — commonly a partially plugged nozzle or improper air band adjustment that disrupts proper atomization. Too much excess air combined with poor atomization produces an inefficient, sooty flame.

**QUESTION 3**

SINGLE CHOICE

A junior technician is inspecting an above-ground residential oil storage tank. Which condition requires immediate corrective action according to standard fuel oil storage practice?

- ☐ A Tank painted with a light-reflective color
- ☐ B Tank installed on a stable concrete pad
- ☒ C Tank shows visible rust-through and oil seepage at the base
- ☐ D Tank fill vent cap is screened

**ANSWER C**

**WHY** Visible rust-through with active oil seepage indicates tank failure and an imminent leak hazard — this must be addressed immediately. The other options (reflective paint, concrete pad, screened vent) are acceptable or required features.

**QUESTION 4**

SINGLE CHOICE

A gas-fired appliance is being installed in a small, tightly sealed basement room. According to standard venting practice, which installation concern must be addressed?

- ☐ A The appliance must be equipped with a barometric draft regulator
- ☒ B Adequate combustion air must be provided per manufacturer and code requirements
- ☐ C The vent connector must be wrapped in insulation
- ☐ D The gas supply must be increased to 2-PSIG manifold pressure

**ANSWER B**

**WHY** Tightly sealed rooms require combustion air to be supplied through permanent openings or ducts sized per the appliance manufacturer and fuel gas code. A barometric regulator is for natural draft appliances, not a substitute for combustion air. Insulation on vent connectors and 2-PSIG manifold pressure are unrelated to the combustion air issue.

**QUESTION 5**

SINGLE CHOICE

An oil burner fails to start, and the technician observes that the ignition transformer is producing a strong spark but the cad cell shows no flame signal after the trial-for-ignition period. What is the most probable cause?

- ☐ A Defective ignition transformer
- ☒ B Clogged or worn nozzle and failed atomization
- ☐ C Open limit switch in the burner circuit
- ☐ D Tripped circuit breaker at the service panel

**ANSWER B**

**WHY** Strong spark plus no flame signal indicates ignition is occurring but no fuel is being properly introduced — typically a clogged nozzle, worn pump, or loss of oil. An open limit or tripped breaker would prevent the transformer from sparking. A defective transformer would not produce a spark.

**QUESTION 6**

SINGLE CHOICE

A Limited Gas/Oil Burner Journeyman in Connecticut is asked to install a new residential gas-fired boiler. Under the scope of the limited license, which of the following describes the permitted work?

- ☐ A Any residential and commercial gas piping up to and including the appliance
- ☒ B Service, repair, and replacement of gas and oil burners and associated controls and piping within the scope of the license class
- ☐ C New installation of complete gas distribution mains to a building
- ☐ D Only diagnostic service work; no replacement of components is allowed

**ANSWER B**

**WHY** Connecticut's limited gas/oil burner journeyman license covers work on burners, burner controls, and the associated piping connected to the appliance — it is not a full gas-fitter license and does not authorize gas main work, and it does permit replacement of components (not just diagnostics).

**QUESTION 7** SINGLE CHOICE

Which instrument is most appropriate for measuring the draft (negative pressure) in the flue of a residential oil-fired furnace?

- ☒ **A** Manometer
- ☐ **B** Combustion gas analyzer
- ☐ **C** Multimeter
- ☐ **D** Tachometer

**ANSWER A**

**WHY** A manometer (typically a U-tube or digital draft gauge) measures draft — the small negative pressure in the flue that pulls combustion gases up the vent. A combustion analyzer measures flue gas composition, a multimeter measures electrical values, and a tachometer measures rotational speed (e.g., motor RPM).

**QUESTION 8** TRUE FALSE

During a routine oil tank inspection, a small amount of surface rust on the exterior of an above-ground steel tank is by itself grounds for immediate tank replacement.

- ☐ **A** True
- ☒ **B** False

**ANSWER B**

**WHY** Surface (cosmetic) rust on an above-ground steel oil tank is common and, by itself, does not require immediate replacement. Tanks are typically replaced when rust progresses to perforation, when seepage is present, or when structural integrity is compromised. Surface oxidation can be cleaned and treated with rust-inhibiting paint.

**QUESTION 9**

SINGLE CHOICE

Before placing a gas-fired appliance into operation, which action should a technician take to reduce the risk of an unsafe installation?

- ☒ **A** Inspect the venting system, gas supply, electrical connections, and combustion-air provisions.
- ☐ **B** Operate the appliance for several minutes before inspecting the vent connector.
- ☐ **C** Adjust the gas valve pressure to the highest available setting.
- ☐ **D** Seal all combustion-air openings to prevent drafts.

**ANSWER A**

**WHY** A pre-start inspection verifies that the gas supply, venting, electrical connections, and combustion-air provisions are present and properly installed. An appliance should not be operated before unsafe conditions are identified and corrected.