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01	A	B	C	D	**E**
02	A	B	C	**D**	E
03	A	B	C	D	**E**
04	A	**B**	C	D	E
05	A	**B**	C	D	E
06	A	B	C	**D**	E
07	A	B	**C**	D	E
08	A	B	**C**	D	E
09	**A**	B	C	D	E
10	**A**	B	C	D	E
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12	A	**B**	C	D	E
13	A	B	C	D	**E**
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34	A	**B**	C	D	E
35	A	**B**	C	D	E
36	A	**B**	C	D	E
37	A	**B**	C	D	E
38	A	B	C	D	**E**
39	A	**B**	C	D	E

PRACTICE QUESTIONS

Technical Standards and Safety Authority (TSSA)

G1

Gas Technician 1

EDITION	QUESTIONS	FORMAT
Demo	9	Limited Edition PDF

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SUPPORT support@mometrix.net

Before you begin

What this is

9 practice questions for Technical Standards and Safety Authority (TSSA) `G1`, 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, `G1`
- the question number
- the email address on your order

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

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QUESTION 1 MULTIPLE CHOICE

When sizing a natural gas piping system using the CSA B149.1 long-length method, which of the following factors must be considered? (Choose two.)

- **A** **Gas pressure drop allowed across the system**
- **B** Brand and model of the gas appliance being served
- **C** **Equivalent length of fittings and pipe**
- **D** Colour of the pipe coating specified by the AHJ

ANSWER **A · C**

WHY The long-length method in CSA B149.1 sizes piping based on allowable pressure drop from the meter to the most remote outlet, and accounts for pressure loss through fittings by adding their equivalent lengths to the measured pipe length. Appliance brand/model and pipe coating colour are not sizing inputs under this method.

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QUESTION 2 MULTIPLE CHOICE

A Gas Technician 1 is performing a combustion analysis on a natural gas furnace. Which readings indicate acceptable combustion performance? (Choose two.)

- **A** **Carbon monoxide (CO) in the flue gas within the limit listed in CSA B149.1 for the appliance category**
- **B** **Oxygen (O2) in the flue gas within the manufacturer's specified range**
- **C** Stack temperature exactly equal to outdoor temperature
- **D** Flue gas dew point 5 °C below the supply air dew point

ANSWER **A · B**

WHY Acceptable combustion is confirmed when the measured CO level is at or below the CSA B149.1 limit for that appliance category and the O2 reading falls within the appliance manufacturer's specified acceptable range. Stack temperature equal to outdoor temperature would indicate no heat was extracted, and a flue dew point below the supply air dew point would indicate condensation in the heat exchanger — neither is an acceptance criterion.

QUESTION 3 SINGLE CHOICE

For a Category I natural gas appliance, which statement correctly describes the venting requirement?

A It must vent only through a direct-vent (sealed combustion) termination.

B **It must be vented into a chimney or vent that operates under non-positive vent pressure and relies on natural draft for exhaust.**

C It must use an induced-draft fan that maintains positive pressure in the vent connector.

D It may share a common vent with a Category IV condensing appliance without any restrictions.

ANSWER **B**

WHY A Category I appliance is a non-positive-pressure, non-condensing appliance that relies on the natural draft of the chimney or vent to remove combustion products. Direct-venting, induced positive-pressure venting, and common venting with a Category IV appliance are characteristics of other categories and are not correct for Category I.

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QUESTION 4 SINGLE CHOICE

Before a gas technician places a new natural gas piping system into service, what must be performed on the system?

A **A standing-pressure (leak) test using air or an inert gas at the pressure and duration specified in CSA B149.1**

B A flow test measuring gas consumption at full load for one hour

C A vacuum test to -10 kPa held for five minutes

D A soap test of every threaded joint with the system pressurized to operating pressure only

ANSWER **A**

WHY CSA B149.1 requires that new or modified gas piping be leak-tested (standing-pressure test) with air or an inert gas at the test pressure and duration specified for the system pressure before it is placed in service. A one-hour flow test, a vacuum test, and an operating-pressure soap test are not the prescribed acceptance procedures.

QUESTION 5 SINGLE CHOICE

Which property correctly distinguishes propane (C3H8) from natural gas (primarily CH4)?

A Propane is lighter than air, so it rises and dissipates quickly when released indoors.

B **Propane is heavier than air, so it can collect in low areas such as basements or floor trenches.**

C Both gases have identical ignition temperatures and flammability limits.

D Propane has a higher flammability limit in air than natural gas.

ANSWER **B**

WHY Propane vapour is denser than air (specific gravity > 1), so leaks can settle into low-lying spaces, while natural gas is lighter than air and rises. They also have different ignition temperatures and flammability limits, and propane's lower and upper flammability limits differ from those of natural gas.

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QUESTION 6 SINGLE CHOICE

Where a gas pipe passes through an exterior wall, what is the required method of sealing the annular space around the pipe?

A Leave the annular space open to allow the pipe to breathe.

B **Seal the annular space with caulking or a weather-tight sealant so that moisture and gases cannot enter the building.**

C Fill the annular space with insulating wool only.

D Cover the opening with duct tape on both sides.

ANSWER **B**

WHY CSA B149.1 requires that openings around gas piping through walls, floors, ceilings, and roofs be sealed to prevent the passage of moisture, flue gases, and air. Open gaps, loose insulation, and duct tape do not satisfy this requirement.

QUESTION 7 SINGLE CHOICE

Which statement about gas appliance connectors is correct under CSA B149.1?

A A flexible connector may be reused from one appliance to the next if it visually appears sound.

B **A flexible connector must be new, of an approved type, and installed without kinks or sharp bends.**

C Flexible connectors may be run inside walls and concealed in ceilings without restriction.

D Flexible connectors may be cut to length and re-terminated in the field.

ANSWER **B**

WHY CSA B149.1 requires that flexible connectors be new, listed for the intended use, installed in accordance with the manufacturer's instructions, and not reused, spliced, or concealed in walls. Reusing, cutting, and field re-terminating connectors are not permitted.

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QUESTION 8 SINGLE CHOICE

A service line regulator supplying a residential natural gas system is set too high and downstream pressure exceeds the appliance inlet rating. Which device must limit the downstream pressure to a safe value?

A The meter itself must be replaced with a lower-capacity meter.

B **An overpressure protection (OPP) device, such as a relief valve or monitor regulator, sized and set per CSA B149.1.**

C The appliance gas valve must be adjusted to limit the inlet pressure.

D The customer's main shut-off valve must be replaced with a smaller orifice valve.

ANSWER **B**

WHY CSA B149.1 requires that an overpressure protection device be installed downstream of any regulator that could fail in a manner that allows the pressure to exceed the safe operating limit of downstream piping and appliances. Adjusting appliance valves, swapping meters, or restricting the shut-off valve do not constitute compliant overpressure protection.

QUESTION 9 SINGLE CHOICE

When purging air from a new natural gas piping system into the building, what is the required procedure per CSA B149.1?

A Purge the air into the building space until a combustible gas detector reads 100% LEL.

B **Purge the air out of the building through the vent or an outside opening large enough to prevent gas accumulation inside the structure.**

C Purge the air into a plastic bag and dispose of it outdoors.

D Purge the air into the building with a fan running to disperse it.

ANSWER **B**

WHY CSA B149.1 requires that when purging air from a new gas line, the purge gas must be discharged outdoors through an opening of sufficient size to safely dissipate the gas and prevent accumulation inside the building. Deliberately discharging gas indoors, even with a detector or fan, is unsafe and non-compliant.

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