

Level 3 End-point Assessment for ST0155/AP02 Gas Engineering (9074-350)

Sept 2019 v1.1

Knowledge Assessment

Sample questions

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Introduction

What is in this document

This document contains the Sample Knowledge Assessment for Level 3 End-point Assessment for ST0155/AP02 Gas Engineering:

- Knowledge Assessment (350)

How to use the forms

The following documents are included:

- Sample questions
- Answer sheet
- Mark scheme

Apprentices should be provided with the sample questions and the answer sheet for the relevant test.

The mark scheme is to be used by employers/training providers/tutors to mark the completed tests.

9074-350 Knowledge Assessment (Sample)

You should have the following for this test

- a pen with black or blue ink
- answer sheet

Read the following notes before you answer any questions:

- Attempt all questions
- If you find a question difficult, leave it and return to it later

This paper contains 20 questions. All questions have equal marks.

This question paper is the property of City & Guilds

How to complete the answer sheet

For typical multiple choice questions:

Each question shows four possible answers (lettered 'a', 'b', 'c' and 'd'); only one is correct.

Decide which one is correct and mark your answer on the answer sheet with your pen.

For example if you decide 'b' is correct, mark your answer with a cross like this:

1 a b c d

If you change your answer, cancel your first choice by filling in the box then put a cross in the answer which you have now decided is correct like this:

1 a b c d

9074-350 Knowledge Assessment (Sample)

01. When installing a new gas appliance, an inappropriate fitting is found attached to the gas supply. What action must be taken?
- Ignore the fitting if there is no smell of gas.
 - Replace the fitting and test the installation using leak detection fluid.
 - Replace the fitting and test the installation using a manometer.
 - Isolate the gas supply and notify RIDDOR of the unsafe installation.
02. What guidance document would need to be consulted when using an acid based flux?
- COSHH.
 - ACOPS.
 - GSIUR
 - GIUSP.
03. Permanent equipotential bonding is found to be missing on a gas installation. What action should be taken?
- Report it to the Gas Safe Register.
 - Inform the customer that bonding is required as soon as possible.
 - Notify the Health and Safety Executive.
 - Connect a temporary continuity bond on the outlet of the meter.
04. A new gas appliance is installed in a rented property. What should be done with the manufacturer's instruction?
- Send to the letting agency.
 - Leave with the occupier.
 - Leave on top of the appliance.
 - Send to the landlord.
05. What should be used to complete a tightness test?
- Manometer.
 - Multimeter.
 - S-Gauge.
 - Y-gauge.
06. A gas pipe passes through a cavity wall. What must the gas pipe have?
- Continuous sleeving.
 - Electrical bonding.
 - Compression joints.
 - Test points.

07. What electrical bonding must be connected within 600mm and before any tee on the outlet of a gas meter?
- Supplementary.
 - Equipotential.
 - Temporary.
 - Cross.
08. What must an engineer check before working on a gas appliance?
- That there is a complete service history.
 - That the gas rating is correct.
 - That a CO detector is installed.
 - That there is a readable data plate.
09. What must be fitted to the inlet of every gas appliance?
- Safety guard.
 - Warning notice.
 - Details of manufacturer.
 - Means of isolation.
10. Gas pipework must pass through a cavity from one side to another unless it is connected to which appliance?
- A radiant gas fire.
 - A flueless gas fire.
 - A decorative flame-effect gas fire.
 - A living flame-effect gas fire.
11. What Gas Safety (Installation and Use) Regulation provides guidance on servicing a gas appliance?
- 3
 - 14
 - 26
 - 37
12. What should be used for checking the safe isolation of electrical supplies?
- Approved voltage indicator.
 - Neon screwdriver.
 - Multimeter.
 - Socket tester.
13. What setting should the multimeter be reading when completing a short circuit test on a boiler?
- Volts.
 - Resistance.
 - Amps.
 - Impedance.

14. What word is used to describe the combustion process when it is starved of air?
- Stoichiometric.
 - Vitiated.
 - Volumetric.
 - Impinged.
15. What is the air/gas ratio required to burn natural gas?
- 10 parts air to 1-part gas.
 - 15 parts air to 1-part gas.
 - 20 parts air to 1-part gas.
 - 25 parts air to 1-part gas.
16. When calculating vent sizes for open flued appliances in a room, what is the allowance for adventitious ventilation?
- 4kW
 - 5kW
 - 6kW
 - 7kW
17. How many purpose-made starter blocks are required for a pre-cast flue system?
- 1
 - 2
 - 3
 - 4
18. A room has an open flued appliance of 20kW nett heat input. What size of ventilation should be used?
- 35cm²
 - 65cm²
 - 100cm²
 - 135cm²
19. What type of vent should be used for domestic natural gas installations?
- Variable.
 - Temporary closed.
 - Permanently open.
 - Adjustable.
20. When is it not necessary to carry out Regulation 26 (9) safety checks on a gas appliance?
- During a routine service.
 - Following the replacement of a gas valve.
 - Following direct disconnection from the gas supply.
 - During the installation process.

21. In accordance with Regulation 26(9), once work on a gas appliance is complete, what **must** be immediately examined?
- Supply of combustion air.
 - Air quality in the property.
 - Air tightness.
 - Temperature of air in the property.
22. What is **not** part of the safety checks while servicing a gas cooker?
- Ventilation.
 - Flue integrity.
 - Hearth size.
 - Flow rate.
23. What is the time in seconds for the temperature stabilisation section of a tightness test?
- 60
 - 120
 - 180
 - 240
24. What type of gas appliance is suitable for installation in a bathroom?
- Room sealed.
 - Open flued.
 - Flueless.
 - Vertex flued.
25. In addition to the normal ventilation requirements for gas appliances, what ventilation must be used when installing a gas cooker in a room?
- Permanent extraction.
 - Intermittent fan.
 - Temporary isolation.
 - Openable window.
26. Which approved document covers 'Sanitation, hot water safety and water efficiency'?
- Part G.
 - Part L.
 - Part M.
 - Part P.
27. What Building Regulation provides guidance on the requirements for heat producing appliance and fuel storage systems?
- H.
 - J.
 - K.
 - L.

28. What advice should be given to a customer who reports the activation of a CO alarm?
- Only use gas appliances if absolutely necessary.
 - Run gas appliances on minimum settings.
 - Turn off all gas appliances and vacate the property.
 - Only use the gas appliances with the windows open.
29. An appliance is categorised as 'immediately dangerous'. The customer refuses to allow its disconnection. What action must be taken?
- Contact the ESP and obtain a reference number.
 - Cap off the meter.
 - Leave the customer with a CO detector.
 - Isolate the appliance at the service valve.
30. What document must be consulted if a gas engineer encounters a gas hob connected to the supply pipework using a filling loop?
- GIUSP.
 - WRAS.
 - GSIUR.
 - ACOPS.
31. There is a report of fumes coming from a gas fire. What is the combustion performance (CO/CO₂ ration) action level for a flueless (type A) (NG) gas fire?
- 0.001
 - 0.002
 - 0.004
 - 0.008
32. In a gas boiler, what safety device prevents the primary water exceeding 3bar?
- Pressure relief valve.
 - Expansion vessel.
 - High limit thermostat.
 - Rectification probe.
33. Why is it important to let an appliance warm up prior to gas rating?
- To ensure the minimum burner pressure is achieved.
 - To ensure the flame failure device is operating.
 - To allow the water vapour in the gas to evaporate.
 - To allow the burner injector to expand.
34. A flue integrity test is conducted on a room-sealed boiler. What percentage of oxygen should be recorded?
- 16.9
 - 18.9
 - 20.9
 - 22.9

35. In what room can an LPG boiler not be installed?
- A bedroom.
 - A utility room.
 - An attic.
 - A basement.
36. Which device allows for temperature to be controlled in an individual room?
- ECV.
 - TTB.
 - PRV.
 - TRV.
37. What type of central heating system that incorporates two 2-port valves?
- C-plan.
 - S-plan.
 - W-plan.
 - Y-plan
38. Rainwater harvesting can provide non-potable water for which use?
- Drinking.
 - Flushing toilets.
 - Showering.
 - Cooking.
39. How does the density of LPG compare to air?
- The density of LPG is lighter than air.
 - The density of LPG is equal to air.
 - The density of LPG is heavier than air.
 - The density of LPG is similar to air.
40. What is the minimum separation distance between two bulk LPG storage tanks?
- 0.5m
 - 1.0m
 - 1.5m
 - 2.0m

9074-350 Knowledge Assessment (Sample) – Answer sheet



| | | | |
|-------------------|----------------------|-------------|--|
| Title | Knowledge Assessment | | |
| Apprentice | | Date | |

| | | | | |
|-----------|----------------------------|----------------------------|----------------------------|----------------------------|
| 01 | a <input type="checkbox"/> | b <input type="checkbox"/> | c <input type="checkbox"/> | d <input type="checkbox"/> |
| 02 | a <input type="checkbox"/> | b <input type="checkbox"/> | c <input type="checkbox"/> | d <input type="checkbox"/> |
| 03 | a <input type="checkbox"/> | b <input type="checkbox"/> | c <input type="checkbox"/> | d <input type="checkbox"/> |
| 04 | a <input type="checkbox"/> | b <input type="checkbox"/> | c <input type="checkbox"/> | d <input type="checkbox"/> |
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| 20 | a <input type="checkbox"/> | b <input type="checkbox"/> | c <input type="checkbox"/> | d <input type="checkbox"/> |

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| | | | |
|------------------|-----|--------------|--|
| Score | /40 | Grade | |
| Marked by | | Date | |

9074-350 Knowledge Assessment (Sample) – Mark scheme

| Q | Key |
|----|-----|
| 01 | d |
| 02 | a |
| 03 | b |
| 04 | b |
| 05 | a |
| 06 | a |
| 07 | b |
| 08 | d |
| 09 | d |
| 10 | d |
| 11 | c |
| 12 | a |
| 13 | b |
| 14 | b |
| 15 | a |
| 16 | d |
| 17 | c |
| 18 | b |
| 19 | c |
| 20 | c |

| Q | Key |
|----|-----|
| 21 | a |
| 22 | c |
| 23 | a |
| 24 | a |
| 25 | d |
| 26 | a |
| 27 | b |
| 28 | c |
| 29 | a |
| 30 | a |
| 31 | a |
| 32 | a |
| 33 | d |
| 34 | c |
| 35 | d |
| 36 | d |
| 37 | b |
| 38 | b |
| 39 | c |
| 40 | b |