



City & Guilds Level 3 End-point Assessment in Plumbing and Domestic Heating Technician (9289-14)

Standard: ST0303

EPA Plan: Version 1.2

Version 1.0

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Knowledge test Paper 2

**(9289-303) – Sample paper, multiple-choice answer
sheet and mark scheme**

Version	Summary of changes	Section
1.0 September 2025	Document created	N/A

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1 Introduction

Area	Description
What is in this document	This document contains the sample knowledge test, answer sheet and mark scheme for the City & Guilds Level 3 End-point Assessment in Plumbing and Domestic Heating Technician multiple-choice knowledge test Paper 2 (9289-303).
Documents included:	<ul style="list-style-type: none">• Sample questions• Answer sheet• Mark scheme <p>Apprentices should be provided with sample questions and the answer sheets.</p> <p>The mark scheme is to be used by employers/training providers/tutors to mark the completed test.</p>

Note: this sample paper-based version of the multiple-choice test is to support formative assessment activities.

Live versions of the multiple-choice test can be accessed using City & Guilds E-volve online system. Please refer to the EPA Manual for details on how to book and administer live tests.

2 9289-303 End-point Assessment – multiple-choice knowledge test Paper 2 (sample questions)

Test duration: 60 minutes

You should have the following for this test:

- a pen with black or blue ink
- multiple-choice questions 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 30 multiple-choice questions worth 1 mark each.

This test paper is the property of City & Guilds.

How to complete the multiple-choice answer sheet.

Each multiple-choice question shows four possible answers (lettered 'a', 'b', 'c', '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 ☐

Q1	What is a safe system of work during installation activities? (1 mark)
	<p>Answers</p> <p>a) Adhere to the programme of work.</p> <p>b) Use verbal instructions from the customer.</p> <p>c) Begin installation work immediately upon arrival.</p> <p>d) Follow risk assessments and method statements.</p>
Spec reference	AC1.2

Q2	What factor determines the size of the cold water supply to a building? (1 mark)
	<p>Answers</p> <p>a) Building location.</p> <p>b) Ground condition.</p> <p>c) Distance from the mains.</p> <p>d) Occupancy of the building.</p>
Spec reference	AC3.1

Q3	<p>What type of fitting is shown in the image?</p> <div data-bbox="764 219 991 416" data-label="Image"> </div> <p>www.screwfix.com</p> <p>(1 mark)</p>
	<p>Answers</p> <p>a) End feed tap connector.</p> <p>b) Press-fit tap connector.</p> <p>c) Push-fit tank connector.</p> <p>d) Compression tank connector.</p>
Spec reference	AC3.2 and AC3.3

Q4	<p>What method is used to shape low carbon steel pipe?</p> <p>(1 mark)</p>
	<p>Answers</p> <p>a) Sand loading.</p> <p>b) Internal springs.</p> <p>c) Manual bending machine.</p> <p>d) Hydraulic bending machine.</p>
Spec reference	AC3.4

Q5	What sleeve should be fitted to allow a hot water pipe to pass through a brick wall? (1 mark)
	<p>Answers</p> <p>a) Tight fitting sleeve.</p> <p>b) Low carbon steel sleeve.</p> <p>c) Similar sleeve material to the pipe.</p> <p>d) Sleeve shorter than the wall thickness.</p>
Spec reference	AC4.1

Q6	Where would the information be found to position and mount cold water boosting equipment? (1 mark)
	<p>Answers</p> <p>a) Approved Document A.</p> <p>b) Water regulation guide.</p> <p>c) Manufacturer instructions.</p> <p>d) Building foundation plans.</p>
Spec reference	AC4.4

Q7	What type of water should be used for culinary purposes? (1 mark)
	<p>Answers</p> <p>a) Wholesome.</p> <p>b) Grey water.</p> <p>c) Harvested.</p> <p>d) Mixed.</p>
Spec reference	AC7.3

Q8	What is the depth range that water services must be installed underground? (1 mark)
	<p>Answers</p> <p>a) Between 500–750 mm</p> <p>b) Between 750–1350 mm</p> <p>c) Between 1350–1650 mm</p> <p>d) Between 1650–1850 mm</p>
Spec reference	AC7.5

Q9	Why would a cold water supply in a building have provision for isolation? (1 mark)
	<p>Answers</p> <p>a) Vary flow.</p> <p>b) Pressure control.</p> <p>c) Allow for maintenance.</p> <p>d) Prevent undue consumption.</p>
Spec reference	AC8.1

Q10	What should be installed to ensure that there is no undue consumption of water at hot taps? (1 mark)
	<p>Answers</p> <p>a) Increased size of supply pipe.</p> <p>b) Decreased size of supply pipe.</p> <p>c) Secondary circulation system.</p> <p>d) Larger heat exchanger.</p>
Spec reference	AC8.2

Q11	What is the Fluid Category of hot water stored in a calorifier? (1 mark)
	<p>Answers</p> <p>a) Fluid Category 1.</p> <p>b) Fluid Category 2.</p> <p>c) Fluid Category 3.</p> <p>d) Fluid Category 4.</p>
Spec reference	AC9.1

Q12	Where should a cold water pipe be positioned to minimise undue warming? (1 mark)
	<p>Answers</p> <p>a) Above hot water services.</p> <p>b) Below hot water services.</p> <p>c) Above heating pipe work.</p> <p>d) Below extracting ducts.</p>
Spec reference	AC9.5


Q13	What is the minimum air gap for a 22 mm supply to a sink? (1 mark)
	<p>Answers</p> <p>a) 11 mm</p> <p>b) 22 mm</p> <p>c) 33 mm</p> <p>d) 44 mm</p>
Spec reference	AC9.8


Q14	What is the best material for hot water pipework in a non-exposed environment? (1 mark)
	<p>Answers</p> <p>a) Cast iron.</p> <p>b) Polybutylene.</p> <p>c) Low carbon steel.</p> <p>d) Unplasticised polyvinyl chloride.</p>
Spec reference	AC10.2


Q15	<p>Where would the component in the image be fitted?</p> <div data-bbox="791 192 957 698" data-label="Image"> </div> <p>www.plumbingsuperstore.co.uk</p> <p>(1 mark)</p>
	<p>Answers</p> <ul style="list-style-type: none"> a) On an unvented cylinder. b) On a plate heat exchanger. c) On a drain pipe from a storage tank. d) On a discharge from a vented cylinder.
Spec reference	AC10.3

Q16	<p>What is the purpose of trace heating in a hot water distribution system?</p> <p>(1 mark)</p>
	<p>Answers</p> <ul style="list-style-type: none"> a) Increase pressure at outlets. b) Reduce dead legs and water waste. c) Reduce the diameter of the pipework. d) Increase temperature of hot water in the mains.
Spec reference	AC10.5

Q17	What is an advantage of a stub stack system? <div style="text-align: right;">(1 mark)</div>
	<p>Answers</p> <p>a) Easily fitted to high level vents.</p> <p>b) Avoids long lengths of vent pipe.</p> <p>c) Suitable for multi-storey buildings.</p> <p>d) Used with soil pipe minimum diameter 160 mm.</p>
Spec reference	AC11.1

Q18	<p>What is the component in the image?</p> <div style="text-align: center;">  <p>www.durapipe.co.uk</p> </div> <div style="text-align: right;">(1 mark)</div>
	<p>Answers</p> <p>a) Drum trap.</p> <p>b) WC macerator.</p> <p>c) Interceptor trap.</p> <p>d) Dilution recovery trap.</p>
Spec reference	AC11.3

Q19	<p>What type of installation would the equipment in the image be suitable for?</p>  <p>www.seton.co.uk</p> <p style="text-align: right;">(1 mark)</p>
	<p>Answers</p> <p>a) Sauna.</p> <p>b) Hazardous areas.</p> <p>c) Sports changing room.</p> <p>d) Washroom for disabled users.</p>
Spec reference	AC11.7

Q20	<p>What is shown in the image?</p>  <p>www.guttersupplies.co.uk</p> <p>(1 mark)</p>
	<p>Answers</p> <p>a) Hopper head.</p> <p>b) Parapet chute.</p> <p>c) Plain box head.</p> <p>d) Running outlet.</p>
Spec reference	AC12.2

Q21	<p>What volume of a storage cistern would require the water undertaker to be informed?</p> <p>(1 mark)</p>
	<p>Answers</p> <p>a) 2500 litres.</p> <p>b) 5500 litres.</p> <p>c) 8500 litres.</p> <p>d) 10000 litres.</p>
Spec reference	AC15.2

Q22	What is the minimum residual chlorine concentration in a cold water system after one hour? (1 mark)
	<p>Answers</p> <p>a) 10 ppm</p> <p>b) 20 ppm</p> <p>c) 30 ppm</p> <p>d) 40 ppm</p>
Spec reference	AC15.4

Q23	What is an effective way to locate a leak when filling a water system prior to first operation? (1 mark)
	<p>Answers</p> <p>a) Water drips.</p> <p>b) Visual inspection.</p> <p>c) Listening for hissing.</p> <p>d) Wet patches on the floor.</p>
Spec reference	AC16.2

Q24	What process is an alternative to flushing a system with additives? (1 mark)
	<p>Answers</p> <p>a) Thermal disinfection.</p> <p>b) Leave the system full.</p> <p>c) High pressure flushing.</p> <p>d) Flush with potable water.</p>
Spec reference	AC16.5

Q25	<p>What is shown in the image?</p> <div data-bbox="831 264 975 734" data-label="Image"> </div> <p>www.testers.co.uk</p> <p>(1 mark)</p>
	<p>Answers</p> <p>a) Bourden tube.</p> <p>b) Barometer gauge.</p> <p>c) Water level gauge.</p> <p>d) U-tube manometer.</p>
Spec reference	AC17.3

Q26	<p>What service is represented by the identification in the image?</p> <div data-bbox="517 1435 1249 1491" data-label="Image"> </div> <p>(1 mark)</p>
	<p>Answers</p> <p>a) Drinking water.</p> <p>b) Untreated water.</p> <p>c) Reclaimed water.</p> <p>d) Firefighting water.</p>
Spec reference	AC23.2

Q27	What is the relevant information required to diagnose a fault? (1 mark)
	<p>Answers</p> <p>a) What are the symptoms, when did the fault occur, has there been any recent work and how much it cost.</p> <p>b) What are the symptoms, when did the fault start, has there been any recent work, review of the service record.</p> <p>c) How much did the appliance cost, what are the symptoms, when did the fault start and review of the service record.</p> <p>d) When did the symptom start, when the appliance was last used, cost of the appliance and is there an alternative appliance that can be used.</p>
Spec reference	AC23.8

Q28	What is the purpose of a shunt pump on a calorifier? (1 mark)
	<p>Answers</p> <p>a) Ensure stratification of water in the calorifier.</p> <p>b) Prevent dead legs in the distribution pipe work.</p> <p>c) Improve secondary circulation from the calorifier.</p> <p>d) Ensure the water temperature in the calorifier is uniform.</p>
Spec reference	AC24.4

Q29	<p>A manufacturing process now uses cold water from the mains supply instead of cold water cisterns.</p> <p>What action should be taken to minimise the risk of legionella in the cold water system?</p> <p style="text-align: right;">(1 mark)</p>
	<p>Answers</p> <p>a) Regularly test the water.</p> <p>b) Isolate, drain and remove the cisterns.</p> <p>c) Fit control valves that would allow some stored water use.</p> <p>d) Isolate the cisterns and use as an emergency supply only.</p>
Spec reference	AC24.4

Q30	<p>What equipment can be used to locate a blockage in a drain?</p> <p style="text-align: right;">(1 mark)</p>
	<p>Answers</p> <p>a) Auger.</p> <p>b) Plunger.</p> <p>c) Ultrasonic.</p> <p>d) Borescope.</p>
Spec reference	AC25.7

3 9289-303 End-point Assessment – multiple-choice knowledge test (answer sheet)

Candidate name:

Date of test: Click or tap to enter a date.

1	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
2	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
3	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
4	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
5	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
6	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
7	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
8	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
9	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
10	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
11	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
12	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
13	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
14	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
15	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
16	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
17	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
18	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
19	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
20	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
21	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
22	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
23	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>

24	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
25	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
26	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
27	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
28	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
29	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>
30	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>	d <input type="checkbox"/>

Number of correct answers: / 30

4 9289-303 End-point Assessment – multiple-choice knowledge test (mark scheme)

Grading

Pass – 18 marks (60%)

Question Number	Key	Question Number	Key
1	d	16	b
2	d	17	b
3	a	18	d
4	d	19	b
5	c	20	a
6	c	21	d
7	a	22	c
8	b	23	b
9	c	24	a
10	c	25	d
11	b	26	a
12	b	27	b
13	d	28	d
14	b	29	b
15	a	30	d