

8202-25 Level 2 Technical Certificate in Plumbing

2023

Qualification Report

Contents

Introduction.....	3
Qualification Grade Distribution	4
Theory Exam.....	5
Grade Boundaries	5
Chief Examiner Commentary	7
Synoptic Assignment	11
8202-026.....	11
Grade Boundaries	11
Principal Moderator Commentary	12

Introduction

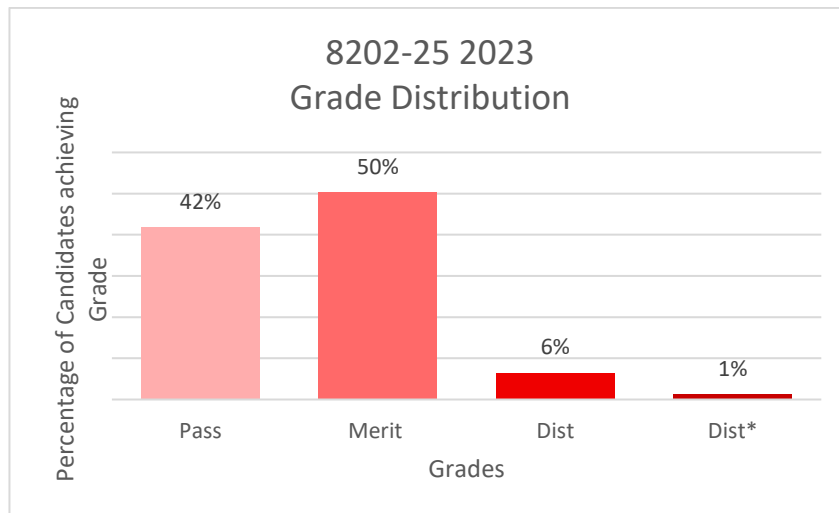
This document has been prepared by the Chief Examiner and Principal Moderator; it is designed to be used as a feedback tool for centres in order to enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for City & Guilds Technical assessments. This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the 2023 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments:

- 8202-025/525 Level 2 Plumbing – Theory exam
 - o March 2023 (Spring)
 - o June 2023 (Summer)
- 8202-026 Level 2 Plumbing – Synoptic Assignment

Qualification Grade Distribution

The approximate grade distribution for this qualification is shown below:



Please note City & Guilds will only report qualification grades for candidates who have achieved all of the required assessment components, including Employer Involvement, optional units and any other centre assessed components as indicated within the Qualification Handbook. The grade distribution shown above could include performance from previous years.

Theory Exam

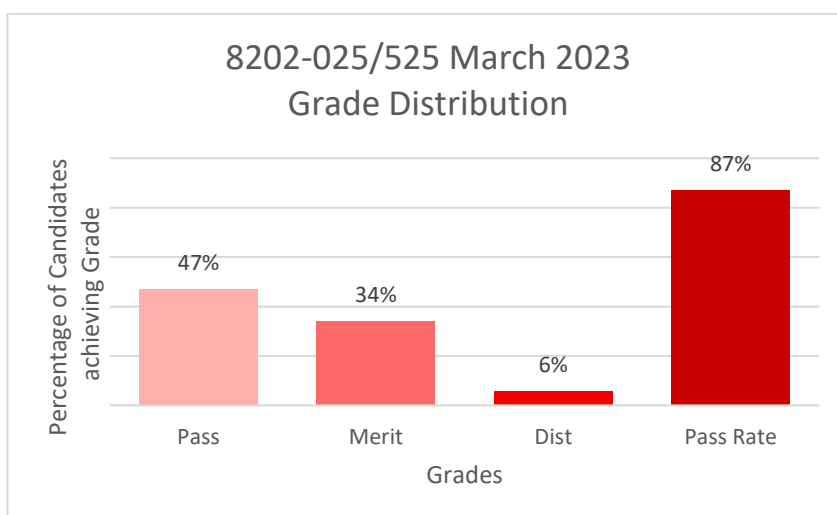
Grade Boundaries

Assessment: 8202-025/525
Series: March 2023 (Spring)

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel.

Total marks available	60
Pass mark	24
Merit mark	33
Distinction mark	43

The graph below shows the distribution of grades and pass rates for this assessment.

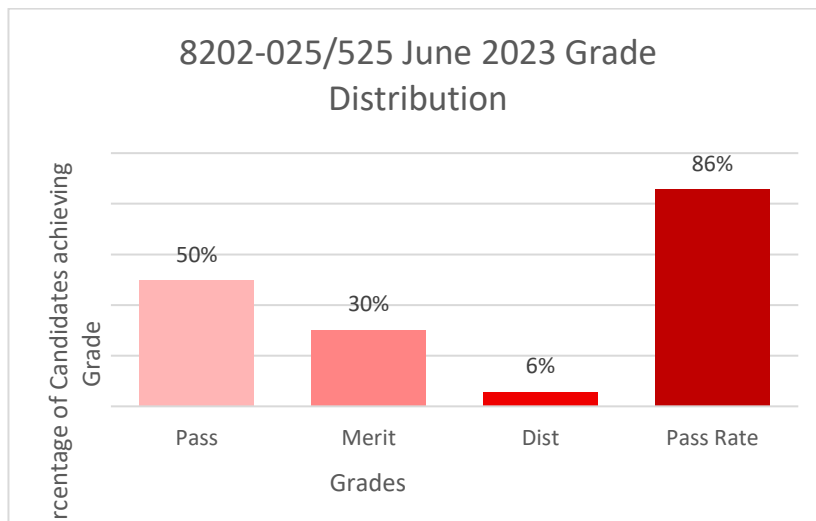


Assessment: 8202/025/525
Series: June 2023 (Summer)

Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Total marks available	60
Pass mark	24
Merit mark	33
Distinction mark	43

The graph below shows the approximate distributions of grades and pass rate for this assessment:



Chief Examiner Commentary

8202-025/525 Level 2 Plumbing – Theory Exam

Series 1 - March 2023

This exam covers units:

- 211 Health and safety and industry practices
- 212 Plumbing processes
- 213 Electrical and scientific principles
- 214 Cold water
- 215 Hot water
- 216 Central heating
- 217 Sanitation and drainage.

The exam is designed to allow candidates to demonstrate a broad range of subject knowledge within the qualification.

This 60-question exam paper in a multiple-choice format was set at an appropriate level and in line with the test specification. A mixture of AO1 (recall of knowledge), AO2 (understanding) and AO4 (applied knowledge and understanding) questions were used across the breadth of units examined.

Unit 211 Health and safety and industry practices - AO1 and AO2 questions performed well, with two areas for improvement identified, topics 1.3 Roles and responsibilities and 2.3 Asbestos.

Unit 212 Plumbing processes - AO1 questions were all answered very well. AO2 and AO4 questions were answered well with an area for improvement identified around topic 4.3 Bends.

Unit 213 Scientific principles - candidate responses were inconsistent with gaps observed across all assessment objectives, AO1, AO2 and AO4. Areas for improvement were identified around topics 1.3 Corrosion and degradation, 2.1 Water, 4.1 Temperature, 4.4 Heat capacity and power, and 5.2 Units and formula.

Unit 214 Cold water - AO1, AO2 questions performed very well although topic 2.3 cold water systems underperformed. Half of the AO4 questions performed well with topic 1.3 Treatment and distribution identified as an area for improvement.

Unit 215 Hot water - AO1 questions were all answered very well. The AO2 questions were well responded to with an area for improvement identified around topic 1.2 Systems and components. Candidates responded well to the AO4 questions for this unit with an area for improvement identified around topic 2.3 Install and test.

Unit 216 Central heating - AO1, AO2 and AO4 questions performed well across this unit. However, most candidates struggled to answer AO1 and AO2 questions around topic 1.2 Operating principles.

Unit 217 Sanitation and drainage - AO1 questions performed well with two areas for improvement identified around topics 1.5 Gutter brackets and fittings and 4.2 Sanitary pipework. Again, the AO2 questions performed well with an area for improvement identified relating to topic 4.4 Traps. Candidates performed well answering the AO4 question for this unit around the topic 3.2 Defects in system.

In conclusion, this year's performance for all units is as expected and demonstrates the differences in deep learning and understanding of technical knowledge, concepts, and principles.

Areas of the examination where candidate performance was identified as strong:

- knowledge and understanding on health and safety
- plumbing processes including identification and material usage.

Areas of the examination where candidate performance was identified as weak:

- scientific principles
- cold water protection
- installation and operating process of sanitation systems
- technical terminology.

To improve candidate performance, centres are advised to reinforce the underperforming topics when delivering the underpinning knowledge of these topic areas. Centres should continue to emphasise technical and theoretical knowledge aspects, with a focus on terminology.

Candidates must ensure they fully read the questions carefully before selecting their responses. They should also structure their time appropriately to ensure they have enough time to read the options and make their selection.

Series 2 – June 2023

This exam covers units:

- 211 Health and safety and industry practices
- 212 Plumbing processes
- 213 Electrical and scientific principles
- 214 Cold water
- 215 Hot water
- 216 Central heating
- 217 Sanitation and drainage.

The exam was designed to allow candidates to demonstrate a broad range of subject knowledge within the qualification.

This 60-question exam paper in a multiple-choice format was set at an appropriate level and in line with the test specification. A mixture of AO1 (recall of knowledge), AO2 (understanding) and AO4 (applied knowledge and understanding) questions were used across the breadth of units examined.

Unit 211 Health and safety and industry practices AO1 and AO2 understanding questions performed well, with two areas for improvement identified for topics 2.1 Preventing potential site hazards around the types of site hazards and 4.3 Safe isolation procedure.

Unit 212 Plumbing processes AO1 questions were all answered very well. AO2 questions were answered well with areas for improvement identified around topics 3.1 Fixing used with pipework components and 3.2 Install clips and brackets.

Unit 213 Electrical and scientific principles AO1, AO2 and AO4 questions were answered very well with areas for improvement identified around topics 1.3 Corrosion protection and degradation, 5.2 Units and formula and 5.3 Circuit protection and earthing.

Unit 214 Cold water AO1, AO2 questions performed well with one AO1 question underperforming for topic 2. 1 Sources of information relating to systems and areas of improvement identified for AO2 questions around topic 1.2 Types of supply into a property. All the AO4 questions performed well for this unit.

Unit 215 Hot water AO1 questions were all answered well with one area underperforming around topic 1.3 System safety and efficiency. The AO2 questions were well responded to with an area for improvement identified around topic 2.1 Installation requirements. Candidates did not respond well to all the AO4 questions for this unit with areas for improvement identified around topics 1.2 Hot water systems and components, 2.3 Install and test systems and components and 2.4 Replace defect components.

Unit 216 Central heating AO1, AO2 and AO4 questions generally performed well across this unit. However, candidates did struggle to answer the AO1 and AO2 questions around topic 1.1 Sources of Information and 1.2 Operating principles of systems and components.

Unit 217 Sanitation and drainage AO1 questions had a mixed performance with two areas for improvement identified around topics, 1.1 Systems and materials used in gravity rainwater systems and 4.2 Features of sanitary pipework and layout. The AO2 and AO4 questions performed very well with only one area for improvement identified for topic 6.3 Pre commissioning checks.

In conclusion, this year's performance for all units is as expected and demonstrates the differences in deep learning and understanding of technical knowledge, concepts, and principles.

Areas of the examination where candidate performance was identified as strong:

- knowledge and understanding on health and safety
- scientific principles
- AO4 questions performed well across the range.

Areas of the examination where candidate performance was identified as weak:

- cold water systems
- understanding hot water systems and components.

To improve candidate performance, centres are advised to reinforce underperforming topics when delivering the underpinning knowledge of these topic areas. Centres should continue to emphasis technical and theoretical knowledge aspects, with a focus on terminology and understanding as only fifty percent of the AO2 questions performed well.

Candidates must ensure they fully read the questions carefully before selecting their responses. They should also structure their time appropriately to ensure they have enough time to read the options and make their selection.

Synoptic Assignment

8202-026

Grade Boundaries

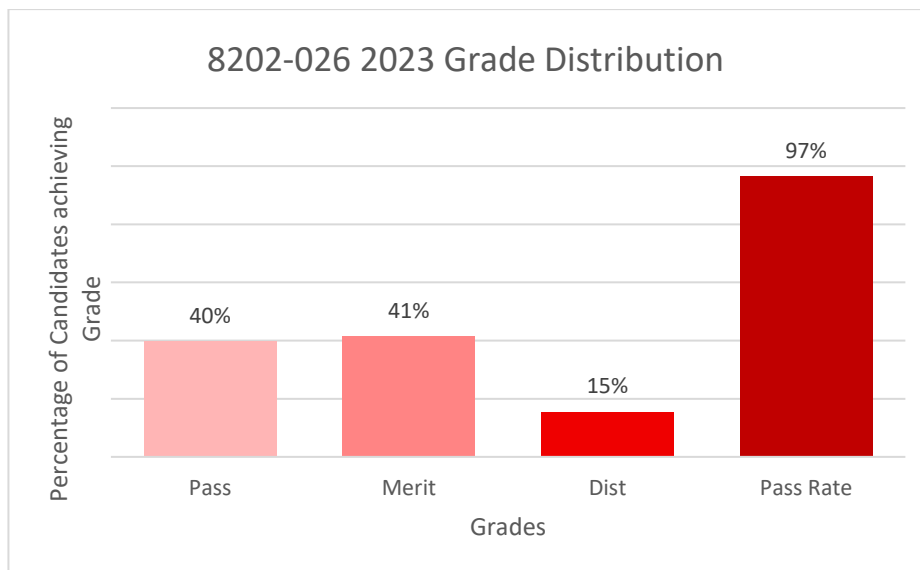
Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Assessment: 8202-026

Series: 2023

Total marks available	60
Pass mark	24
Merit mark	36
Distinction mark	48

The graph below shows the approximate distributions of grades and pass rate for this assessment:



Principal Moderator Commentary

Candidate performance across the assignment was good with candidates completing a range of activities across the synoptic that accurately gauged their breadth of knowledge, understanding and practical skills throughout the planning, maintenance, and installation tasks.

AO1 Recall of knowledge – The planning and self-reflection tasks provided opportunities for candidates to detail good recall of their knowledge and skills. Most candidates performed well, however, some candidates from the lower scoring band missed the opportunity to evidence their recall of knowledge and skills.

AO2 Understanding – Candidates understanding was generally good across the cohort. Candidates from the low scoring band did not provide in-depth responses to problems, therefore, missing opportunities to achieve higher marks. Candidates from the high scoring band required no prompting and displayed confidence in all aspects of the synoptic providing high levels of detail and logical reasoning in their responses.

AO3 Application of practical/technical skills – The practical performance across the synoptic evidenced good skill sets across the majority of candidates. Candidates from the low scoring band just met the minimum standards and this was evident in the quality of pipework fabrication and soldering skills observed. The aesthetics of pipework fabrication and the quality of installation varied across the cohort with candidates from the high scoring band demonstrating excellent skills and attention to detail in line with industry standards.

AO4 Bringing it all together - The assignment gave several opportunities for candidates to evidence theoretical knowledge and understanding across a range of activities and tasks directly linked to their practical skills. Candidates in the high scoring band were able to logically sequence the tasks and provide reliable reasoning for their actions, including:

- detailed planning
- producing logical method statements with the required actions being completed to industry standards
- self-reflecting of their own performance.

Candidates in the low scoring band produced evidence that contained gaps in knowledge and understanding and lacked any logical reasoning and detail in some of their responses.

AO5 Attention to detail - Attentional to detail was not always evident across the whole of the synoptic assignment. Candidates in general focused on the practical installation aspect and in most cases only candidates from the high scoring band were able to provide quality evidence of planning and self-reflection across all the tasks. Most candidates were able to produce evidence of checking their work, however, the quality varied across the cohort.

Guidance to centres on how to complete the synoptics and how to effectively use the marker guide has been completed via moderation support visits, these visits have resulted in a greater understanding of the synoptic grading and banding process in centre marks. This, coupled with a greater understanding in issuing marks between different AO outcomes, has seen centre marks within tolerance in most assessments resulting, in the level of skills being accurately recorded by the centre markers in the samples moderated.

Overall, the evidence supplied by centres, was robust and generally provided strong supporting evidence for synoptic assessment taken. This included good use of photographic support materials which aided moderation. Overall, centres have a very good understanding of the delivery and assessment of the qualification with some discrepancies in the understanding from candidates on how to reflect on their own work.