

8202-35 Level 3 Advanced Technical Diploma in Plumbing (450)

2023

Qualification Report

Contents

Introduction.....	3
Qualification Grade Distribution	4
Theory Exam.....	5
Grade Boundaries	5
Chief Examiner Commentary	7
Synoptic Assignment	10
Grade Boundaries	10
Principal Moderator Commentary	11

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.

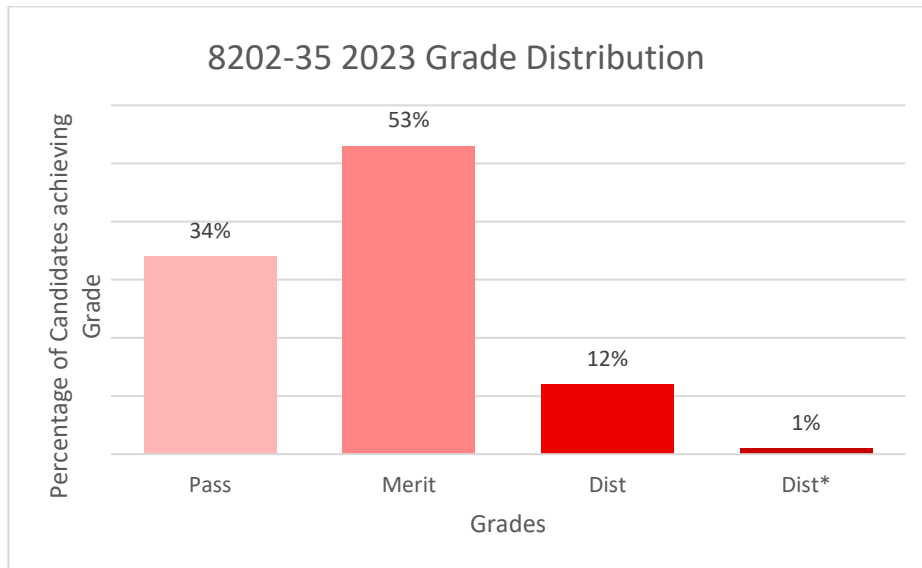
This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments 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:

- 8202-035/535 Level 3 Plumbing – Theory Exam (1)
 - March 2023 (Spring)
 - June 2023 (Summer)
- 8202-036 Level 3 Plumbing – Synoptic Assignment (1)

Qualification Grade Distribution

The 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

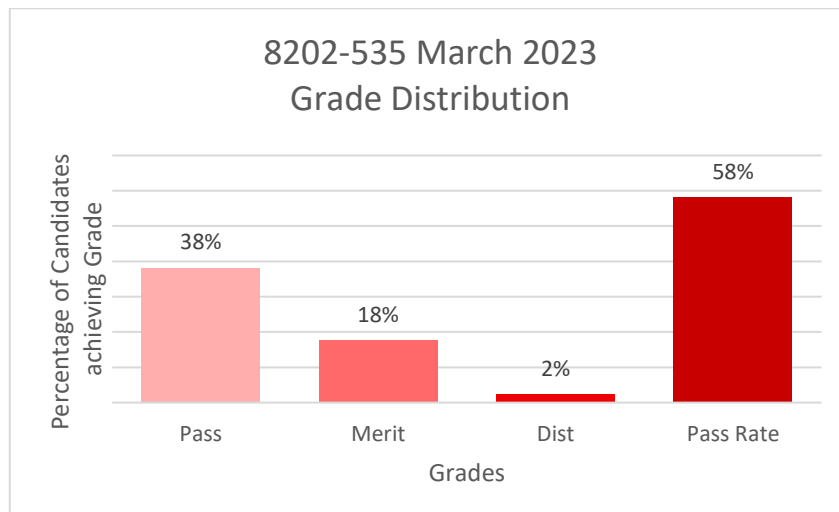
Assessment: 8202-535

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	34
Distinction mark	44

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

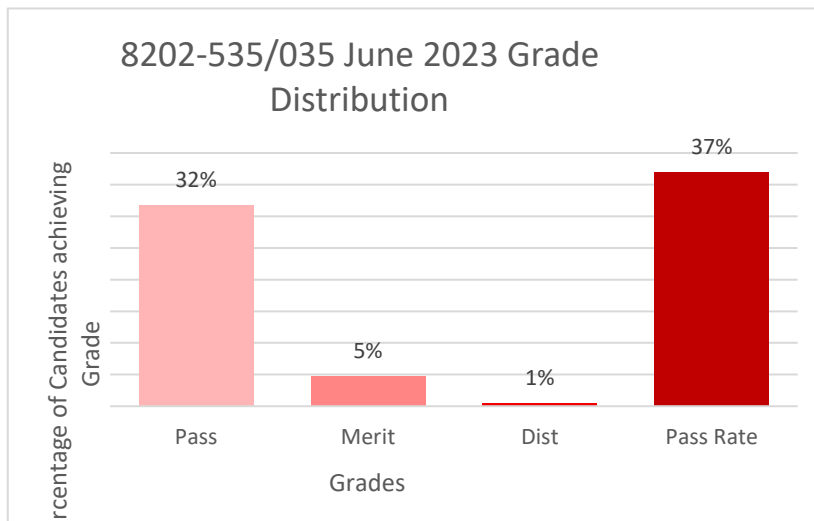


Assessment: 8202-535/035
Series: June 2023 (Summer)

Below identifies the final grade boundaries for this assessment:

Total marks available	60
Pass mark	23
Merit mark	33
Distinction mark	43

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



Chief Examiner Commentary

8202-535/035 Level 3 Plumbing - Theory Exam (1)

Series 1 – March 2023

This exam covers units:

- 331 Cold water system planning and design.
- 332 Hot water system planning and design.
- 333 Central heating system planning and design.
- 334 Sanitation system planning and design.
- 335 Environmental technology systems.

The exam is set as a mixture of short answer questions and an extended response question.

The questions are broken down into a mixture of assessment objectives that cover the breadth of units examined. These are AO1 (Recall of knowledge), AO2 (Understanding), and AO4 (Application of knowledge and understanding) which is assessed in the extended response question.

Candidates demonstrated good knowledge and understanding in areas where the questions focused on theoretical learning that is directly reproduced in practical sessions, particularly installation and application processes. There were some gaps in responses around processes of planning and design. This is expected and demonstrates differentiation in understanding concepts and principles across the cohort.

Areas of the examination where candidate performance was strong, included:

- Knowledge and understanding of Water Regulations.
- Underpinning knowledge of unvented hot water.
- Recall of renewable technologies and reduced carbon technologies.

Areas of the examination where candidate performance could be improved, included:

- Boosted and cold water storage principles.
- Low loss headers.
- Booster pumps.
- Sanitation installation and where an understanding of technical terminology was required.
- Storage temperatures of hot water.

Candidates appeared well prepared for the extended response question (AO4). Some candidates displayed some level of confusion in the type of commissioning they were performing, but in general they performed well.

Very few candidates did not answer all questions; therefore, evidencing a varied range of knowledge and understanding from candidates.

Candidates should be reminded of the need to ensure they fully read and understand all questions before responding; in particular, the questions assessing understanding (AO2) and application of knowledge and understanding (AO4). Centres are advised to support their candidates' development with these types of questions.

Centres are also advised to ensure that candidates fully develop knowledge and understanding of working principles of system design and layouts and preparing candidates to consider deeper explanations on processes and sequence of activities for the system type in question.

Series 2 – June 2023

This exam covers units:

- 331 Cold water system planning and design.
- 332 Hot water system planning and design.
- 333 Central heating system planning and design.
- 334 Sanitation system planning and design.
- 335 Environmental technology systems.

The questions are broken down into a mixture of assessment objectives that cover the breadth of units examined. These are AO1 (Recall of knowledge), AO2 (Understanding), and AO4 (Application of knowledge and understanding) which is assessed in the extended response question. All questions are set to an appropriate level and are comparable in terms of difficulty with previous series including the June 22 series and are aligned to the test specification.

There was a good balance of linked questions whereby one question would have multiple parts. Analysis of these linked questions deemed that the questions were suitable and appropriate, thus resulting in candidates being able to answer the question independently from linked responses. There was a slight alteration to the extended response question (AO4) format this series which enabled candidates to demonstrate their knowledge and understanding by providing in-depth reasoning and justifications for their responses.

Candidates demonstrated good knowledge and understanding in areas where the questions focused on theoretical learning that is directly reproduced in practical sessions, particularly around installation and selection of systems. There were some gaps in responses where candidates were asked to explain the functions of components, the processes of planning and system layouts. This was as expected and demonstrated the differentiation in understanding concepts and principles across the cohort.

Areas of the examination where candidate performance was strong, included:

- Cold water overarching principles and system design.
- Low loss headers.
- Booster pumps and the operating principles.
- Thermal heat gain.
- Function and operation of safety components linked to hot water.

Areas of the examination where candidate performance could be improved, included:

- Sanitation installation and where an understanding of the types of installation required considerations.
- Underpinning knowledge of hot water and heating design.
- Recall of renewable technologies and reduced carbon technologies.

Candidates did not appear well prepared for the extended response question (AO4) and displayed some level of confusion in the type of system that they were selecting and their justifications for selecting the system, which resulted in only a few candidates achieving the high band marks.

Candidates should be reminded of the need to ensure they fully read and understand all the questions before responding; in particular, the questions assessing understanding (AO2) and application of knowledge and understanding (AO4). Centres are advised to support their candidates' development with these types of questions. This could be further enhanced in preparing candidates to consider deeper explanations on process and reasoning.

Centres are advised to utilise the support material available on the City & Guilds website such as guidance support and past papers so that candidates are familiar with the exam style. In particular, candidates should be encouraged to develop their understanding of how to respond to different command verbs (e.g. Explain, Describe, Evaluate).

Synoptic Assignment

Grade Boundaries

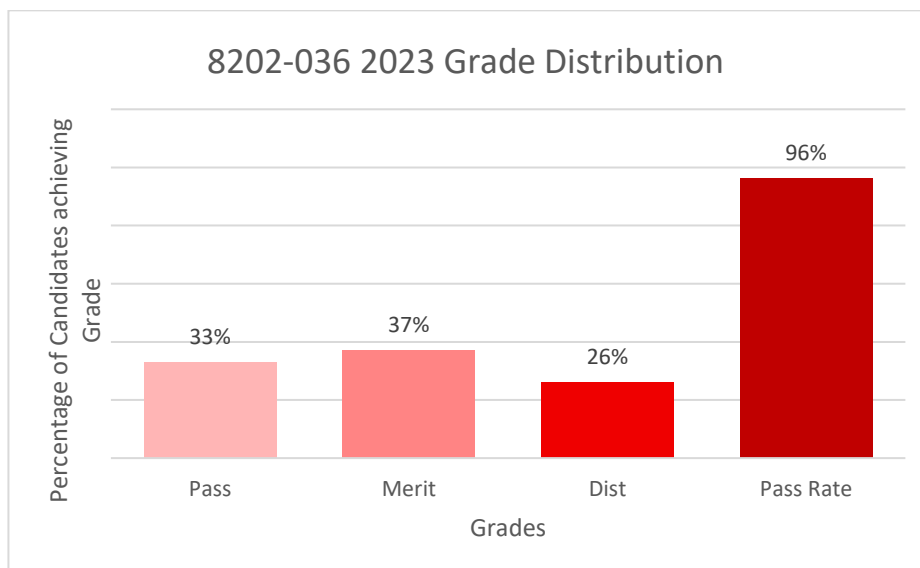
Below identifies the final grade boundaries for this assessment:

Assessment: 8202-036

Series: 2023

Total marks available	60
Pass mark	23
Merit mark	33
Distinction mark	43

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



Principal Moderator Commentary

Candidate performance across the assignment is 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 - Most candidates performed well showing some good recall of knowledge and understanding from across the range. The recall of knowledge from candidates within the high scoring band was excellent. These candidates were able to link their knowledge to industry quoting Regulations in places.

AO2 Understanding - Understanding was generally good across the cohort. Some candidates found it easy to connect the theories and concepts of plumbing and why we do what we do. Candidates from the high scoring band excelled in this area and were able to clearly describe and articulate the concepts to a very good standard.

AO3 Application of practical/technical skills – Candidates in the high scoring band demonstrated excellent skills which were in line with industry standards. However, candidates' skills from the low scoring band just met or fell below the minimum standard. This was evident in the quality of pipework fabrication and soldering skills observed. The aesthetics of pipework fabrication varied across the cohort.

AO4 Bringing it all together - The assignment gave several opportunities for candidates to bring their work together in an appropriate way. Candidates from the high scoring band were able to effectively link their theoretical knowledge and understanding into their practical skills. However, most candidates were unable to make this link, and this was evident in their overall understanding of the subject.

AO5 Attention to detail - Most candidates were able to demonstrate a range of checks, for each of the tasks, throughout the assignment. Candidates from the high scoring band were thorough in these checks; their tasks were completed in full, and their work was presented to industry standards at times.

Moderation support visits were carried out to all centres to provide guidance on how to complete the synoptics and how to effectively use the marker guide. 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 centres marks within tolerance in most assessments resulting in the level of skills being accurately recorded by the centre markers in the samples moderated.

The evidence supplied by centres, was robust and generally provided strong supporting evidence for the synoptic assessment taken. This included the 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.