

0171-015/515 – Level 3 Land-based Engineering – Theory Exam (1)

March 2022

Chief Examiner Report

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Introduction

This document has been prepared by the Chief Examiner, it is designed to be used as a feedback tool for centres to use in order to enhance teaching and preparation for assessment. It is advised that this document be referred to when preparing to teach and then again when candidates are preparing to sit examinations for City & Guilds Technical qualifications.

This report provides general commentary on candidate performance and 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 the **March 2022** examination series. It will explain aspects which caused difficulty and potentially why the difficulties arose, whether it was caused by a lack of knowledge, incorrect examination technique or responses that failed to demonstrate the required depth of understanding.

The document provides commentary on the following assessment;
0171-015/515 Level 3 Land-based Engineering – Theory Exam (1).

Theory Exam – March 2022

Grade Boundaries and distribution

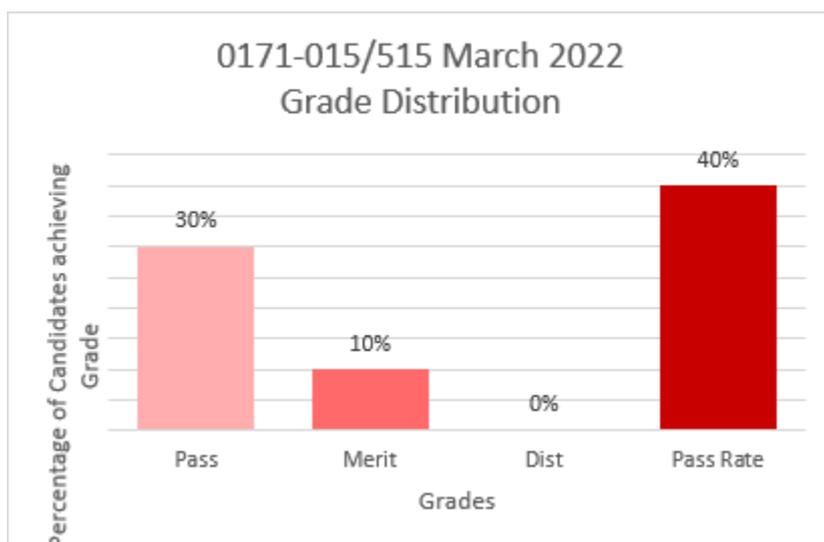
Assessment: **0171-015/515**

Series: **March 2022**

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	42

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



Chief Examiner Commentary

General Comments on Candidate Performance

Assessment component: 0171-015/515

Series 1 (March)

The March 2022 examination paper covered a wide range of learning outcomes across the qualification specification, and it was comparable to previous series of the examination in terms of range, suitability and level.

Candidates' performance was lower than expected compared to previous series, with candidates demonstrating a lack of knowledge and depth of understanding across the paper.

Overall candidates in this series, were challenged with the maths and science-based questions eg compression ratio, mixing of units within a calculation, rounding up, relating to the phase of internal combustion engine operation and applying it to a firing order and cylinder configurations. A range of mathematical methods were demonstrated within answers by candidates but with limited accuracy.

Candidates performed better in topics related to the practical application of knowledge and practice of mechanical activities. Most candidates scored creditably for the questions relating to engine capacity, friction, averages and filters.

Extended Response Question (ERQ)

The extended response question provided an opportunity for the candidates to demonstrate their knowledge and understanding of fault finding and give typical readings in a scenario relating to an agricultural tractor. Many candidates provided either a limited or very limited explanation of cylinder compression testing, often not including preparation and initial checks, and a lack of a recognised cylinder compression testing and recording procedure. Some candidates interpreted the question as testing injectors, fuel pressure, cooling system, taking readings while the engine is running and leak down testing. Most candidates did offer reasons for the engine fault description described in the question - most of which were logical and possible faults.

Centres are advised to help candidates develop their use and understanding of technical terminology and science-based concepts across the qualification. Candidates would benefit from practising examination techniques when preparing for future series to fully understand the requirements of the question before answering, particularly those that require candidates to demonstrate reasoning and justification in support of statements.

Past papers and marking schemes are available on the City and Guilds website which should be used for exam practice.

City & Guilds also offers a technical exam guide to support the work on the exam technique.

All documents are available to download from [Technicals in Agriculture and Land-based Engineering qualifications and training courses | City & Guilds \(cityandguilds.com\)](https://www.cityandguilds.com/Technical-Engineering-qualifications-and-training-courses)

Past papers and marking schemes: Documents – Level 3 – Assessment materials – Past Papers tabs

Exam guide: Documents – Level 3 – Assessment materials