

0171-516 – Level 3 Land-based Engineering – Theory Exam (1)

March 2024

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 2024** 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:
0171-516 Level 3 Land-based Engineering – Theory Exam (1).

Theory Exam – March 2024

Grade Boundaries and distribution

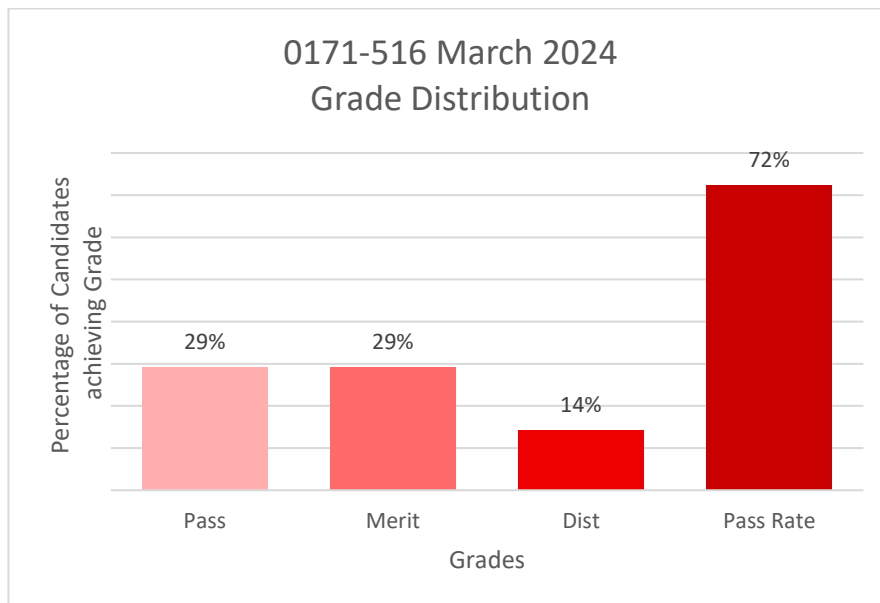
Assessment: **0171-516**

Series: **March 2024**

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

Total marks available	60
Pass mark	24
Merit mark	32
Distinction mark	41

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: 0171-516

Series 1 (March 2024)

Candidates' performance on this paper is broadly comparable to March 2023.

Areas of strength

- Component operation.
- Knowledge of braking systems and electronics.
- Hydraulic system faults.

Areas which proved more challenging

- Explanations of the working principles of a vehicle alternator.
- Questions relating to electronic components (including higher performing candidates).
- Electrical power and hydraulic calculation questions (including transposition of a formula).
- Exam technique - some candidates did not read questions carefully/ answer the question being asked., Eg a question related to vehicle management and telematics where many responses referenced general machine operation and a question that relates to the function of differing types of vehicle electrical components; many candidates responded with no comprehension of the operation.

Areas with differentiation

- Steering wear in relation to effect on geometry showed a positive differentiation between the high and low scoring candidates.
- The Extended Response Question showed a range of performances, showing an appropriate level of discrimination between candidates.

The Extended Response Question

This question focussed on diagnostic assessments, typical readings and related faults for a land-based vehicle's electronic throttle to engine control. Candidates performed well in this question, with 97.8% of candidates gaining some marks (86.6% of which achieved band 2 or above, with 41.8% scoring within band 3 which is an improvement from March 2023). Few candidates understood the advantages of using an oscilloscope to read signals from the throttle device.

A proportion of candidates planned their answers well showing some improvement in the exam technique. This was especially evident in some questions requiring candidates to show depth of understanding. However, this area still requires further work, many candidates failed to provide the required answers due to not reading the questions.

Centres are advised to help candidates develop their knowledge and understanding of electrics, with particular focus on electronic terminology, principles and components. Candidates will also benefit from further practice in exam techniques to ensure that they read and fully understand what the question is asking before attempting to answer. As part of this, it would be beneficial to become more familiar with the command verbs and to understand the differences in how to respond to 'describe' and 'explain' questions.

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/qualifications/0171-516)

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

Exam guide: Documents – Level 3 – Assessment materials