

0171-023/523 – Level 2 Technical Certificate in Land-Based Engineering

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:
0171-023/523 Level 2 Land-based Engineering – Theory Exam.

Theory Exam – March 2024

Grade Boundaries and distribution

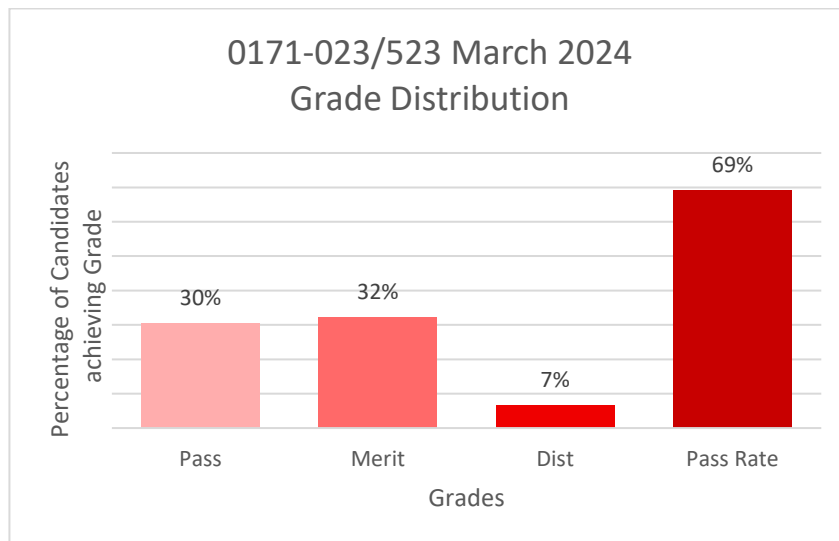
Assessment: **0171-023/523**

Series: **March 2024**

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

Total marks available	50
Pass mark	25
Merit mark	32
Distinction mark	40

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: 0171-023/523

Series 1 (March)

A good breadth of knowledge and understanding was evident across all units assessed in this examination. Candidates accessed marks in all areas of the assessment, suggesting they have prepared well for the exam. Identification questions were answered correctly by most candidates along with functionality questions. Some areas were not answered well, and poor responses were seen in questions that required demonstration of applied knowledge and understanding. Also, some identification questions looking at equipment and symbols were not answered well.

Unit 209

This unit focuses on the drive lines and components of the drive lines used in the land-based equipment. Candidate responses overall demonstrated a high level of knowledge and understanding, along with a wide breadth of knowledge within this area.

Unit 210

This unit focuses on the construction, operation and maintenance of engines, their components and related systems. Candidates were able to access marks across most the questions demonstrating a breadth of knowledge and understanding. Overall, depth of knowledge and understanding was evident too, with gaps only appearing in areas where a particular depth of understanding was required when relating to operating cycles and the specific function of diesel exhaust fluid.

Unit 212

This unit looks at the principles of electricity and how this is applied on land-based equipment. Candidates demonstrated a knowledge and understanding of the application of circuit layouts, the symbols used to represent components in a schematic, and the identification of electrical components. Gaps in understanding were evident when candidates were responding to questions around the testing of electrical systems.

Unit 213

This unit looks at the function, layout of systems and operating principles of hydraulic systems used on land-based equipment. Overall, candidates performed well in this area and were able to identify basic hydraulic symbols, identify the systems which use high pressure, suggest the correct use of testing procedures, and demonstrate knowledge of the risks posed by hydraulic systems.

Unit 214

This unit focuses the operation of land-based machinery and equipment. The majority of candidates demonstrated a breadth of knowledge and understanding across the unit. Candidates were able to identify functions of systems and equipment, how to use them safely, and relevant checks which can be applied to ensure fitness for use. Gaps in applied knowledge were seen when identifying specific equipment and the correct operational settings for particular tasks.

AO4/Scenario-based questions

The scenario-based question was set around a servicing and repair task which covered a number of units. Candidates are expected to refer to information from the scenario to answer the related questions. Candidates demonstrated a depth of knowledge and understanding in some topics and weaknesses in others. Strengths were seen from looking at the servicing procedures. The topics which were answered least effectively related to the causes of faults, the impact of using jump leads and the procedures for electrical and performance testing.

Centres are continuing to prepare students to a good standard, and this is supported by the overall pass rate. To allow for further enhancements, candidates would benefit from a greater depth of knowledge around electrical and hydraulic systems. In particular, the identification of common symbols used within workshop manuals and the basic diagnostic tasks carried out on a regular basis within the sector.

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 2 – Assessment materials – Past Papers tabs

Exam guide: Documents – Level 2 – Assessment materials