

1145-21 Technical Certificate in Engineering (Electronics)

2019

Qualification Report

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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.

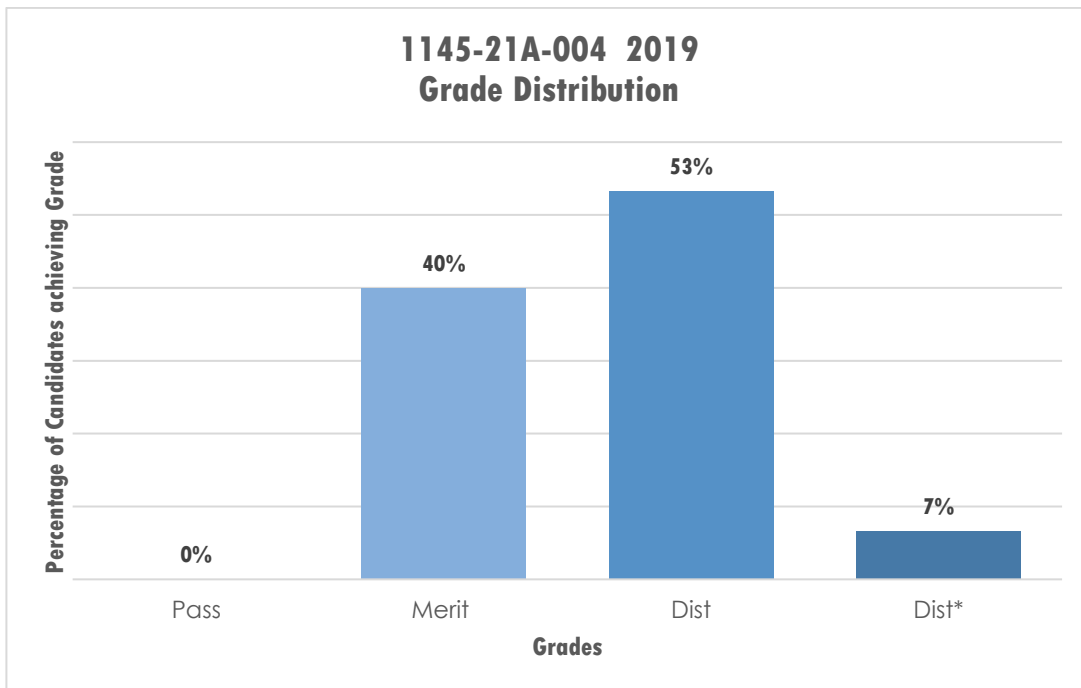
This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the 2019 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments:

- 1145-520 – Level 2 Technical Certificate in Engineering (360) – Theory exam
 - March 2019 (Spring)
 - May 2019 (Summer)
- 1145-028 – Level 2 Technical Certificate in Engineering (Electronics) – 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

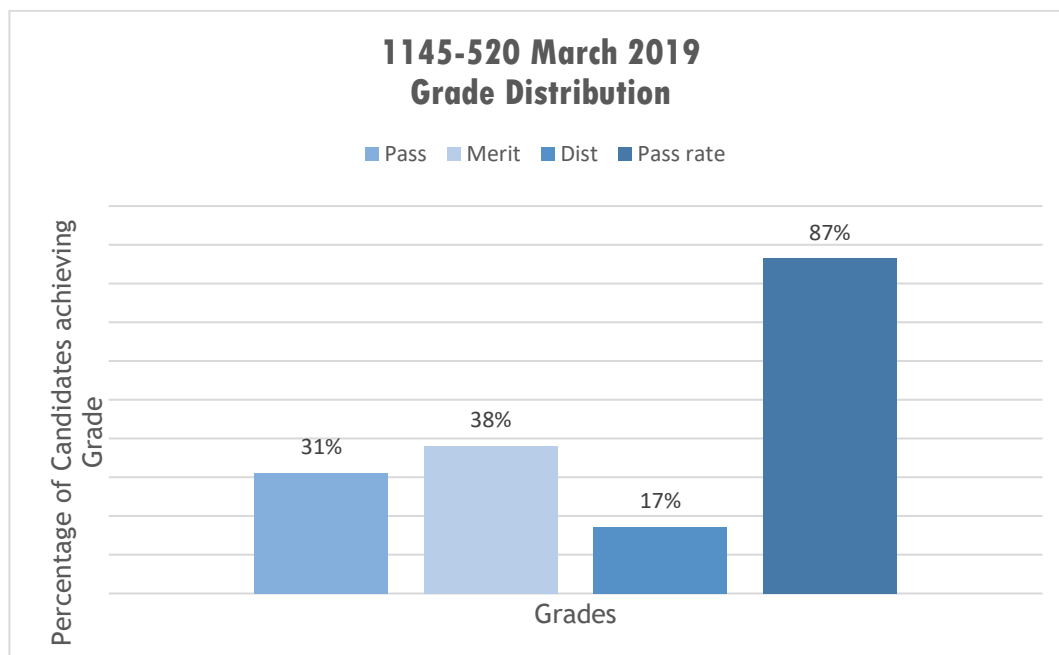
Grade Boundaries and distribution

Assessment: **1145-520 Level 2 Engineering – Theory exam**
Series: **March 2019**

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

Total marks available	60
Pass mark	21
Merit mark	30
Distinction mark	40

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



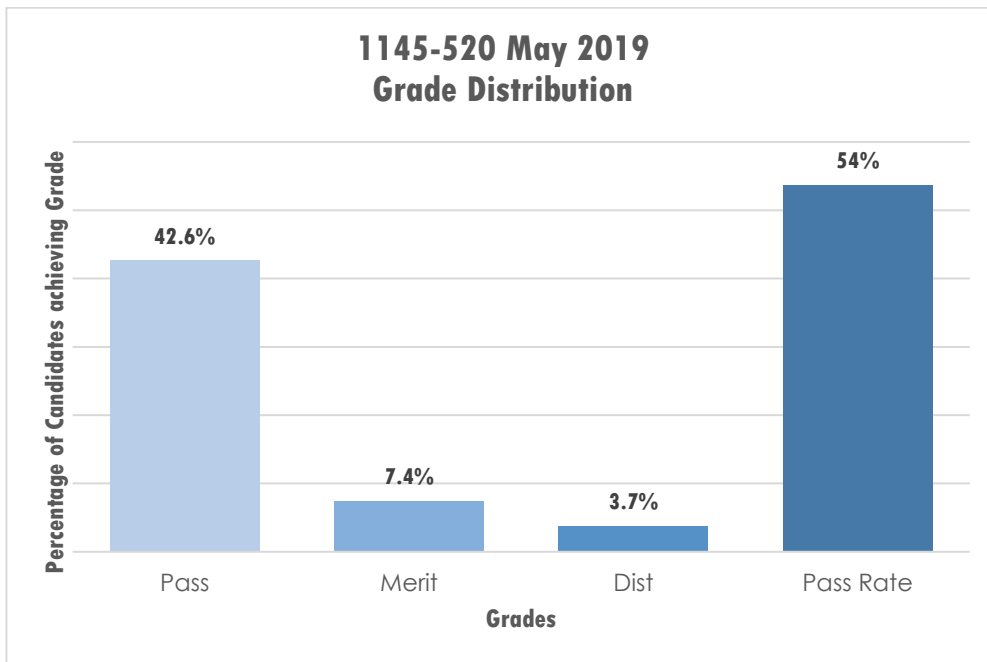
Theory Exam

Assessment: **1145-520 Level 2 Engineering – Theory exam**
Series: **May 2019**

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

Total marks available	60
Pass mark	23
Merit mark	32
Distinction mark	41

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



Chief Examiner Commentary

General Comments on Candidate Performance

Assessment component: **1145-520 Level 2 Engineering – Theory exam**

Series 1 (March)

The paper as a whole and the individual questions met the requirements of the specification and were pitched appropriately for this level. The paper was comparable with the previous series.

There was a mixed response to this question paper. Whereas some questions were answered extremely well in terms of both breadth and depth of knowledge, responses to others were poor and showed a lack of knowledge or understanding of the relevant specification content. For example, candidates generally showed good knowledge and understanding relating to health and safety, the use of manufacturing methods and the different roles and responsibilities within an engineering workplace. However, candidates generally struggled with questions relating to engineering symbols, scientific definitions and calculations. Most candidates would have benefitted from showing their working more clearly when attempting calculations, including writing down the formulae used.

The extended response questions were generally answered well and demonstrated the range of candidate abilities. Answers were generally structured well. Some candidates would have scored higher marks in the extended response question if they had considered the relative impact of different types of factor, and how factors could also influence each other.

General Comments on Candidate Performance

Assessment component: **1145-520 Level 2 Engineering – Theory exam**

Series 2 (May 2019)

The paper as a whole and the individual questions met the requirements of the specification and were pitched appropriately for this level. The paper was comparable with the previous series.

This paper was generally not well answered by candidates. Although there were good responses to some questions in terms of both breadth and depth of knowledge, there were significant gaps shown in knowledge and understanding of several of the specification topics that were assessed. For example, candidates generally showed good knowledge relating to workshop planning, health and safety, the expectation of stakeholders and selection of materials. However, candidates struggled with questions relating to engineering symbols, smart materials, use of workshop equipment, approaches to business improvement and calculations.

Most candidates would have benefited from giving more detailed explanations and justifications when attempting questions that assessed depth of understanding, and showing their working more clearly when attempting calculations, including writing down the formulae used.

Responses to the extended response questions demonstrated the range of candidate abilities. Almost all candidates showed at least some relevant knowledge recall in the extended response question. The majority of candidates showed additional depth of understanding, but most candidates would have scored higher marks if they had considered the relative impact on different and conflicting characteristics.

Synoptic Assignment

Grade Boundaries

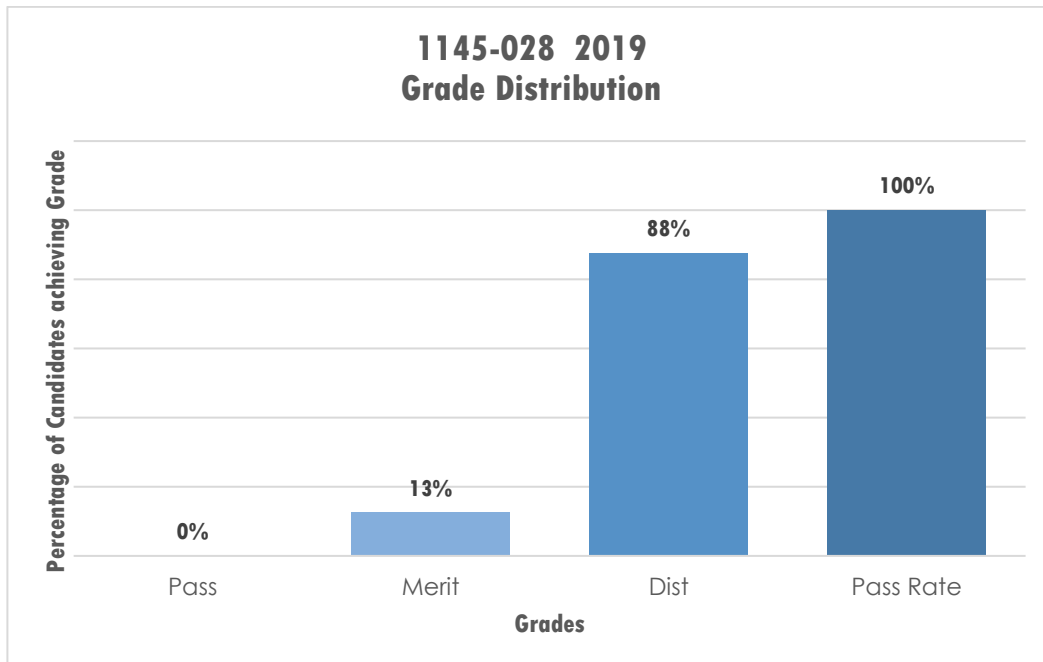
Below identifies the final grade boundaries for this assessment, as agreed by the awarding panel:

Assessment: 1145-028

Series: 2019

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:



Principal Moderator Commentary

The assignment involved the manufacture of a personal alarm system and was similar in level to the previous series. It met the requirements of the specification and was pitched appropriately for this level.

Most aspects of this assignment were typically completed well. In particular, almost all candidates demonstrated good knowledge recall, using the correct terminology for the various components and processes required. There was some good evidence of understanding, particularly in planning the construction of the circuit and testing the circuits. However, a proportion of candidates did not explain the purpose of each of the individual components in the circuit in sufficient detail, although this was stated as a requirement in the assignment brief.

The finished circuits were typically well documented, with supporting test records. There were a variety of different and innovative approaches taken for the casing, ranging from manufacture using 3D printing to repurposing of packaging.