

# 1145-20 Technical Award in Engineering

2018

**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.

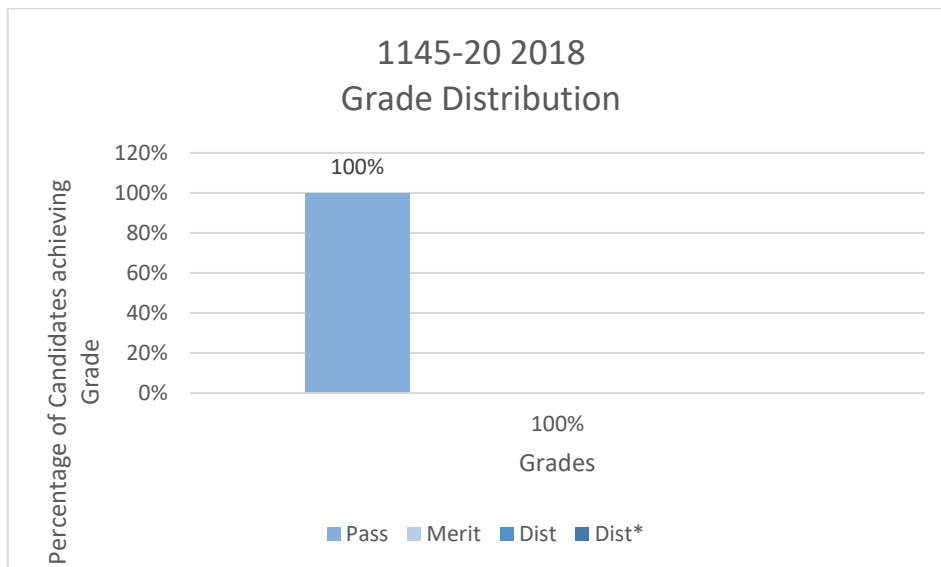
This report provides general commentary on candidate performance in both the synoptic assignment and theory exam. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the 2018 academic year. It will explain aspects which caused difficulty and potentially why the difficulties arose.

The document provides commentary on the following assessments:

- 1145-502 – Level 2 Technical Award in Engineering – Theory exam
  - March 2018 (Spring)
  - June 2018 (Summer)
- 1145-001 – Level 2 Technical Award in Engineering – Synoptic Assignment

# 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

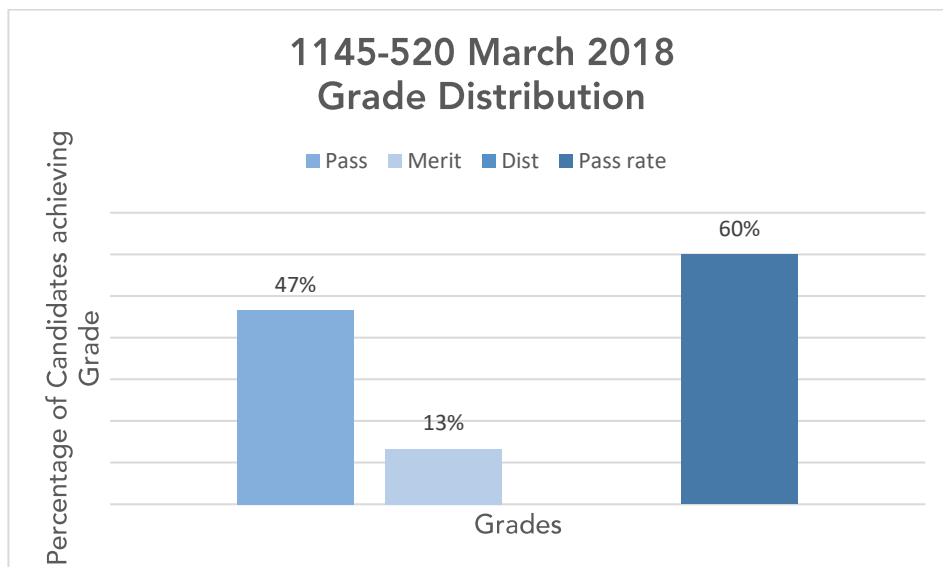
Assessment: 1145-502

Series: March/2018 (Spring)

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

<b>Total marks available</b>	<b>80</b>
Pass mark	26
Merit mark	40
Distinction mark	55

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



Assessment: 1145-502  
Series: June/2018 (Summer)

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

<b>Total marks available</b>	<b>80</b>
Pass mark	26
Merit mark	40
Distinction mark	55

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

There is no grade distribution as no candidates passed the Summer series of the theory exam.

# Chief Examiner Commentary

1145-502 – Level 2 Technical Award in Engineering - **Theory exam**

## **Series 1 – March 2018**

This is the first cohort of learners to complete this qualification. The paper as a whole and the individual questions met the requirements of the specification, and were pitched appropriately for this level.

The cohort for this paper was very small. It is therefore difficult to draw statistical conclusions regarding candidate performance. However, in general the paper was not well answered by candidates. There were several common areas of weakness shown, which are detailed further below.

Candidates generally showed good breadth and depth of knowledge when answering questions on health and safety (where candidates frequently expanded upon their responses) and the benefits of computer-based technologies, such as CAD and virtual modelling. However, significant gaps in knowledge and understanding were present in questions relating to electronic components, and casting and welding processes. In a number of cases these questions were left blank by candidates. Further feedback on individual questions is provided below.

The synoptic question resulted in candidates generally showing a good breadth of basic knowledge and some depth of understanding. Answers were generally structured well. However, all candidates would have benefited from producing more detailed supporting evaluations and conclusions to the points that were made.

## **Series 2 – June 2018**

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.

The cohort for this paper was very small. It is therefore difficult to draw statistical conclusions regarding candidate performance. However, the paper was very poorly answered by candidates. There were large gaps in specification coverage, evidenced by the high number of questions that were not attempted by the majority of candidates. No candidates showed any depth of understanding, and basic knowledge recall was very poor throughout.

A minority of candidates attempted the synoptic question. The responses for those that did were low level, descriptive answers. Candidates would have benefitted from expanding their answers to include explanations, justifications and discussions of the points made.



# Synoptic Assignment

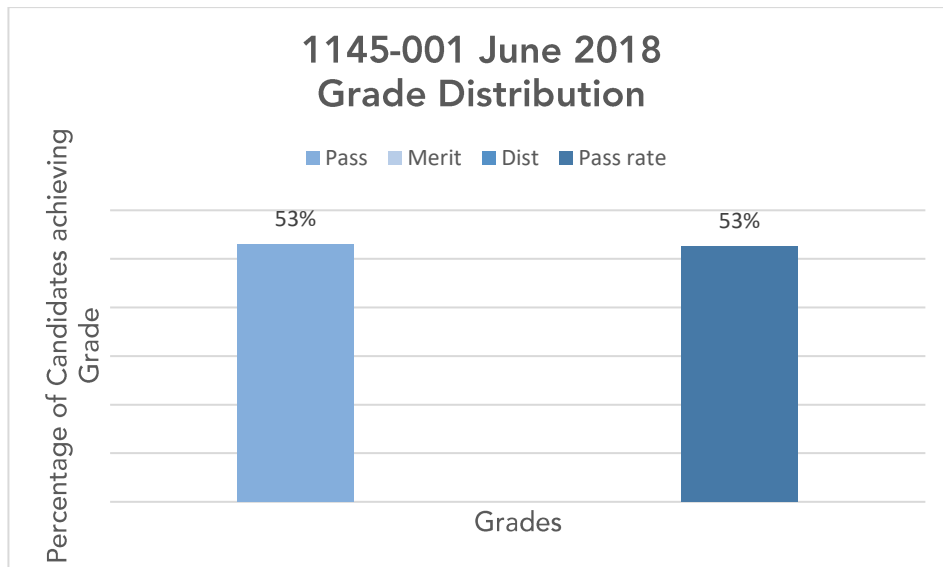
## Grade Boundaries

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

Assessment: 1145-001  
Series: 2018

<b>Total marks available</b>	<b>60</b>
Pass mark	24
Merit mark	33
Distinction mark	42

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



## Principal Moderator Commentary

The assignment was similar in level to the previous series. This view was reinforced by the evidence provided by the candidates, which was sufficient, valid and of appropriate quality to support marking and moderation.

The assignment involved the design and manufacture of a personal alarm. This was carried out as a series of structured tasks, specified in the assignment brief. The assessment objectives assessed by this assignment were AO2 (understanding), AO3 (practical skills), AO4 (bringing it together) and AO5 (attending to detail / perfecting).

The evidence submitted by candidates for AO2 (understanding) was generally appropriate, but could have been improved. Whilst the evidence provided by most candidates included circuit diagrams, CAD drawings and production plans that implicitly demonstrated the practical application of understanding, there were limited explicit statements showing understanding. Evidence could have been improved by including more annotation on circuit diagrams and drawings, or adding detailed explanations for the components selected and supporting calculations, or the reasons for the use of the selected manufacturing processes.

AO3 (practical skill) was typically appropriately evidenced, with pictures of produced items and relevant commentary on the practical observation form. The circuits produced typically displayed a good level of soldering skills.

AO4 (bringing it all together) was, in general, appropriately evidenced, particularly in the modelling of circuits using breadboards, the circuit drawings and the skills demonstrated in the CAD drawing. Evidence could have been improved by giving more detailed reasons for the selection of components in terms of functionality, for example as annotations on the circuit diagram and pictures of models.

Attending to detail (AO5) was not evidenced well. This relied heavily on subjective comments by the tutor assessor on the practical observation form. This could have been improved by including a test record sheet for the finished circuit, ideally with objective testing of its functionality.

Overall, it was clear that markers had considered awarding marks across the full range of AOs in all tasks; this is to be commended. It would assist moderation if centres could make or add comments to illustrate where assessment criteria were being specifically addressed.