5220-032 – Advanced Technical Extended Diploma in Digital Technologies (720) – Theory Exam

Pathways:
- 5220-035/535 Application Development
- 5220-036/536 System Infrastructure
- 5220-042/542 Cyber Security

March 2020

Examiner Report

Contents

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 2020** 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 assessments:

- **5220-035/535 Application Development – Theory Exam**
- **5220-036/536 System Infrastructure – Theory Exam**
- **5220-042/542 Cyber Security – Theory Exam**

Theory Exam – March 2020
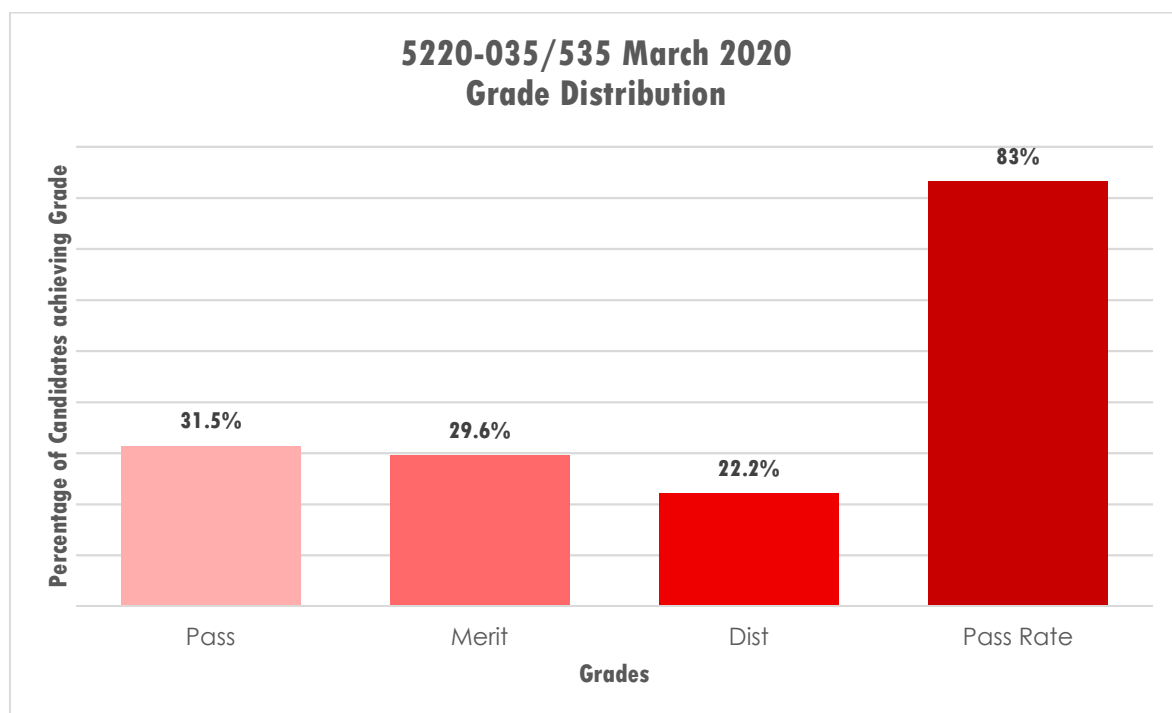
Grade Boundaries and distribution

Assessment: **5220-035/535**
Series: **March 2020**

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

Total marks available	80
Pass mark	34
Merit mark	45
Distinction mark	57

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

5220-035/535 March 2020
Grade Distribution

Percentage of Candidates achieving Grade

Pass	Merit	Dist	Pass Rate
31.5%	29.6%	22.2%	83%

Grades

Chief Examiner Commentary

General Comments on Candidate Performance

Assessment component: 5220-035/535

Series 1 (March)

This paper is comparable with previous series in structure, scope and level of difficulty. The general success of well-prepared candidates in this cohort was high and many will have secured good marks to help them achieve good overall qualification grades. There is an improvement in achievement this year against the last spring series. This was achieved largely because of a rise in the number of candidates in the pass boundary.

Most questions set against AO1, knowledge, produced lists that included a good set of items, with candidates generally achieving more than half of the available marks. Stronger candidates provided the full number of items to access full marks.

The responses to the questions set against AO2, understanding, were varied.

Consistent with previous series, candidates that accessed the maximum marks available gave two distinct points on the topics being tested. Candidates provided good answers when considering the types of documentation that should be included with software applications, including the testing plans and logs; many were able to justify why some items are useful for the developer and the client. They were also able to identify processes used in the gathering of client requirements. Candidates performed well in the identification of data types and naming styles for the variables used for them.

Candidates were less successful in considering constructs such as arrays and the iterative processes used in algorithms. In some answers there was confusion in the structure and in the reasons for using development life cycle models.

Understanding of error identification and the use of debugging tools was partial, with very few candidates providing completely correct answers. This was also true in the description of naming styles, with some candidates unable to give a clear description of each system of naming.

The paper included two questions set against AO4. The first question asked candidates to interpret pseudocode. The second question used a scenario based on application production and how development could be completed using different paradigms. The question on pseudocode was generally well answered, with candidates making good connections with the practical tasks completed in programming applications.

Responses to the Extended Response Question were generally not as strong. There were some very good answers where a coherent explanation and discussion was provided, allowing candidates to achieve high marks into the top band. However, many candidates failed to move beyond facts and brief explanations to achieve these marks in the higher bands.

Overall, most candidates should be very satisfied with their performance in this test. Ongoing, centres are advised to use formative assessment tasks in the development of the extended answers to enhance candidates' discussion in terms of analysis, justification and evaluation.

Centres are reminded of the City & Guilds Technicals 'Exam Guides' available here:

**https://www.cityandguilds.com/-
/media/productdocuments/digital_and_it/it_professional/5220/level_3/assessment_materia
ls/theory_exam/exam_guide/5220-32_techncials-exam-guide_035_535_v2_0-pdf.ashx**

Theory Exam – March 2020
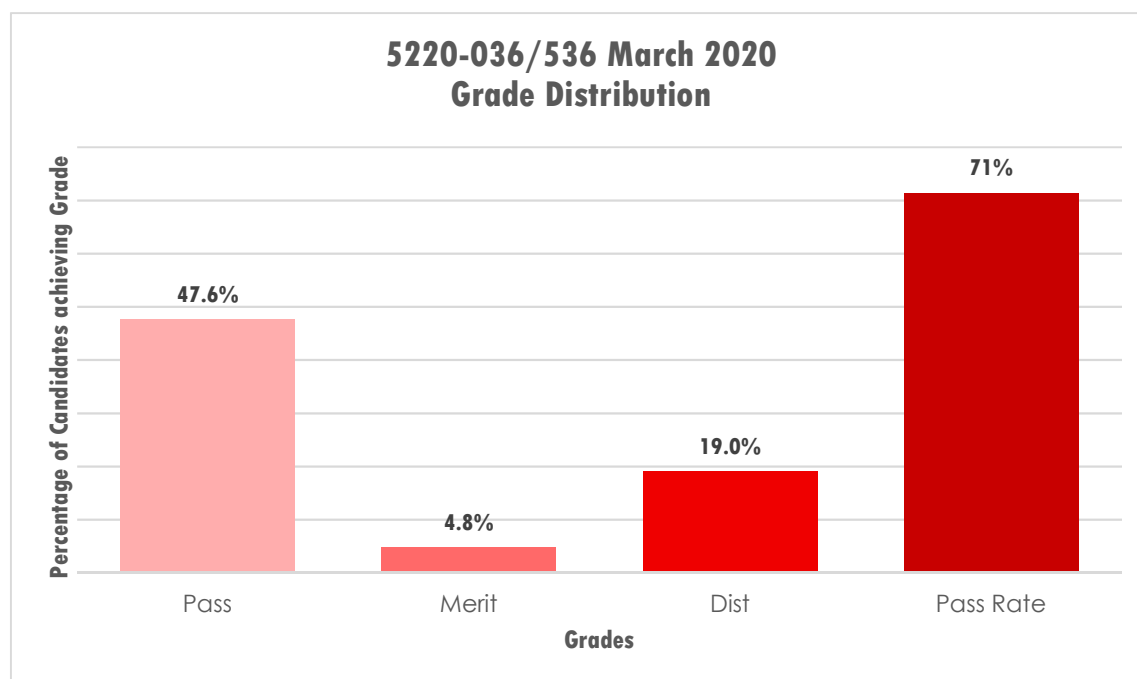
Grade Boundaries and distribution

Assessment: **5220-036/536**
Series: **March 2020**

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

Total marks available	80
Pass mark	33
Merit mark	44
Distinction mark	56

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

5220-036/536 March 2020
Grade Distribution

Percentage of Candidates achieving Grade

- Pass: 47.6%
- Merit: 4.8%
- Dist: 19.0%
- Pass Rate: 71%

Grades

Chief Examiner Commentary

General Comments on Candidate Performance

Assessment component: 5220-036/536

Series 1 (March)

This paper is comparable with previous series in structure, scope and level of difficulty. Overall, the outcomes for this component have improved, with a notably higher number of candidates achieving pass grades, thereby improving the achievement rate for the test when compared with spring last year.

Responses to questions set against AO1, knowledge, were generally good and candidates built stronger grades through their revision of recall topics and by providing comprehensive lists of items. Having said this, there was a notable tendency for candidates to provide explanations for items, rather than just providing the list required for AO1 questions. Centres are advised to make sure that candidates are aware of the type of answers required by different types of question.

Answers to questions set against AO2, understanding, had a broad range of performance standards. Some candidates were very capable of meeting the requirements of providing two distinct points for each topic addressed and most candidates attempted to provide answers for all questions. It was notable, however, that there was a significant number of vague and incomplete responses.

Questions dealing with the use of the CLI, cloud services, fault diagnosis and network technologies caused some issues for candidates in both AO1 and AO2. In the AO2 questions some evidence of understanding was seen, but candidates generally lacked sufficient skill to provide meaningful explanations and to fully access marks.

Some answers about support systems and the financial arrangements that organisations might undertake, such as insurance against systems issues, were vague. It is important that candidates should be able to describe the impact of failure and the mitigation that can be used to reduce or remove its effects.

The paper included two Extended Response Questions set against AO4. The first scenario asked candidates to discuss use of Cloud technologies in hosting solutions. The second scenario asked candidates to consider threats posed to Internet-based data storage systems.

In the Extended Response Questions, some candidates provided brief answers, despite having made a promising start in dealing with the topics. This would suggest that centres must encourage all candidates to provide discussion in their responses, where they build on statements of facts and explanations to undertake analysis, justification and evaluation. This subject particularly lends itself to consideration of the benefits and drawbacks of alternative options. A small number of better responses used this approach to achieve marks in the higher bands.

A significant number of candidates used identical content in both Extended Response Questions. It should be made clear to candidates that the content must reflect the requirements of the scenario given in each question stem.

Generally, the cohort performed well, particularly in the lower grade band and it should be possible for centres to build on this performance. Candidates will benefit from practising examination techniques when preparing for this component. Candidates also need to be prepared for the different types and structures of questions contained within the paper. Centres should make sure, particularly, that all students are able to provide coherent and succinct explanations, as well as having knowledge of a topic.

Centres are reminded of the City & Guilds Technicals 'Exam Guides' available here:

https://www.cityandguilds.com/-/media/productdocuments/digital_and_it/it_professional/5220/level_3/assessment_materials/theory_exam/exam_guide/5220-32_techncials-exam-guide_036_536_v1_1-pdf.ashx

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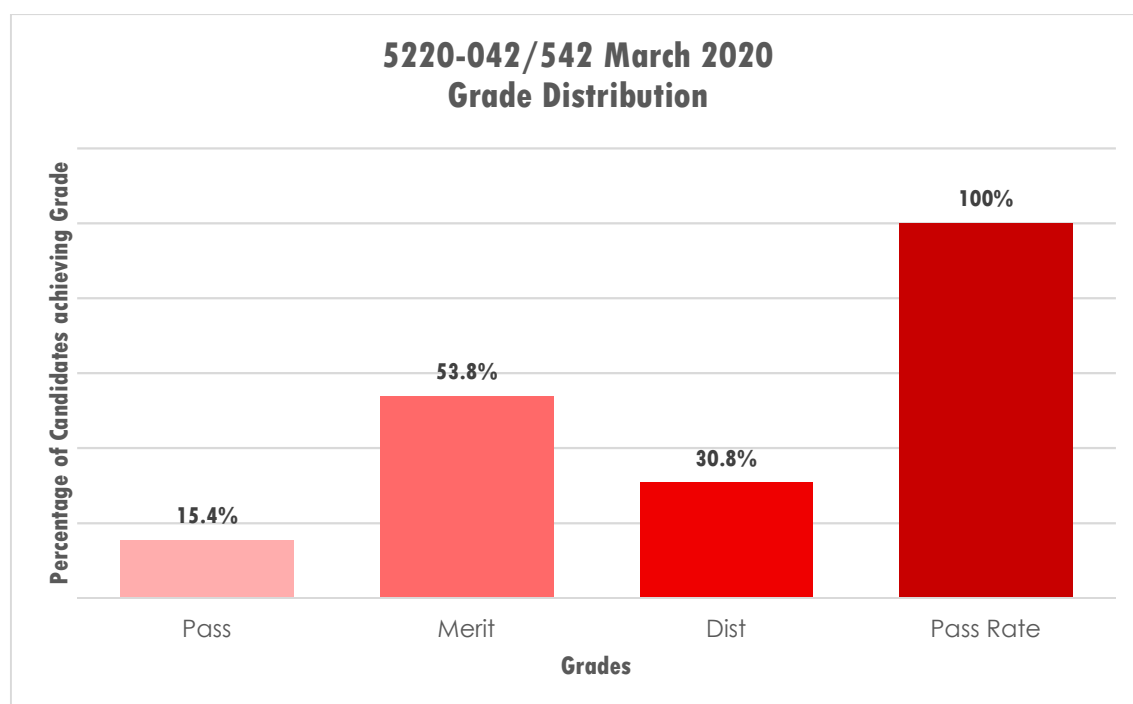
Grade Boundaries and distribution

Assessment: **5220-042/542**
Series: **March 2020**

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

Total marks available	80
Pass mark	32
Merit mark	44
Distinction mark	56

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: 5220-042/542

Series 1 (March)

The cohort assessed in this series is the first presented for the test in this pathway. This small cohort generally performed well with all candidates achieving at least pass and a majority achieving merit and distinction.

Answers to questions set against AO1, knowledge, tended to give more information than was required. Centres are advised to practise appropriate answer styles for each type of question that can be asked. This will save candidates unnecessary effort in questions that ask for a simple list of items.

There was evidence of some stronger responses in questions set against AO2, understanding. Generally, candidate answers were well-formed and offered two distinct points for each topic addressed. In some cases, the candidates helpfully illustrated their understanding with relevant examples from their own experience.

There were a few areas where performance faltered a little. Most notably, the question dealing with readiness for recovery through the use of hot, warm and cold sites produced poor responses. Connected to this issue, there was some confusion around different recovery objectives.

The use of encryption and its value in information security caused a few problems. Candidates seemed to struggle with the embedded technologies integrated into hardware such as RFID security devices. Also, there was confusion about the roles of authentication and authorisation, with the explanations being reversed in some cases.

The paper included two Extended Response Questions set against AO4. The first scenario asked candidates about how security reviews could be conducted. The second scenario asked candidates to discuss strategies used to ensure the availability of systems.

The Extended Response Questions produced weaker responses, as candidates did not always construct useful discussions. Candidates should state facts relevant to the particular scenario set. They should provide explanations that make it clear that they understand these facts in context. Candidates who performed well in this type of question moved on from explanation into discussion. Discussion demands some elements of analysis of the topics along with a justification of views expressed and an evaluation of any alternatives to the views put forward.

Overall, this is an excellent result set from a strong cohort and centres should be able to build off the successes achieved in this series. Candidates would benefit from strategies to help them construct discussions in the Extended Response Questions and centres are advised to practise exam technique with candidates so that they give the appropriate amount of attention to each section of the paper.

Centres are reminded of the City & Guilds Technicals 'Exam Guides' available here:

https://www.cityandguilds.com/-/media/productdocuments/digital_and_it/it_professional/5220/level_3/assessment_materials/theory_exam/exam_guide/5220-32_techncials-exam-guide_042_542_v1_1-pdf.ashx