OCR
Oxford Cambridge and RSA

CAMBRIDGE TECHNICALS LEVEL 3 (2016)

Examiners' report

IT

05838−05842, 05877

Unit 2 January 2023 series

Contents

Introduction

Our examiners' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

A full copy of the question paper and the mark scheme can be downloaded from OCR.

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Unit 2 series overview

The overall performance of the candidate continues to improve. However, it was also noted that many candidates still demonstrated knowledge gaps in relation to the unit content. Centres should ensure that candidates are familiar with all areas of the unit content before being entered for the external examination.

The correlation between content, context and command words still appeared to be limited. Candidates should be aware of the differing command words, e.g., identify, describe, explain, discuss, and the demands of each of these. Candidates should also be familiar with the concept that questions may have a specific focus. It is this focus which should be considered by candidates when composing their responses to questions.

In this unit, a pre-release case study is issued, this provides the context for Section A of the external examination. A limited number of candidates appeared to be unfamiliar with the context of the case study, for this external examination this was a motorbike race team (PHGP). This apparent lack of familiarity limited candidate's accessibility to many of the questions in Section A of the external examination where the questions are directly linked to this case study.

The case study also includes some research prompts for candidates. These prompts should not be ignored as the knowledge gained through completing the research will enhance accessibility to the questions in Section A.

Section B of the external examination does not require candidates to link their responses to the case study. It was, however, noted that there was evidence of knowledge gaps from the candidates' responses in this section.

There are many resources available which can be used during the teaching of this unit. Centres are encouraged to access the resources available from the OCR website that relate to the interpretation of the case study and exemplification / analysis of candidate responses from previous sessions.

OCR support

i   Further guidance relating to the case study, research bullets and how these relate to the questions in Section A can be found in the *Understanding the case study: June 2018 (Unit 02)*.

Candidates who did well on this paper generally did the following:	Candidates who did less well on this paper generally did the following:
• applied their responses in Section A to the pre-release case study • answered questions in Section B in the context of the context of an independent theatre • understood the question command words and the demands of these.	• provided limited application of the responses in Section A to the pre-release case study • provided responses which did not apply to the context in Section B.

Section A overview

This section of the external examination was directly links to the case study, motorbike race team (PHGP).

Question 1 was directly linked to bullet points 1, 3 and 4 of the research points.
Question 2 was directly linked to bullet point 1 of the research points.
Question 3 was directly linked to bullet point 5 of the research points.
Question 4 was directly linked to bullet points 1 and 2 of the research points.
Question 5 was directly linked to bullet points 1 and 2 of the research points.

Question 1 (a)

1   Each race, PH GP collects data from the sensors on the bike.

   (a)   The collected data can be classified as an internal source.

   Explain why the data is classified as an internal source.

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   .... **[3]**

The focus of this question was on the classification of the data collected from the sensors on the bike. Where candidates related their response to this data many were able to access all allocated marks. Some candidates provided vague explanations relating to general details about the internal source of data could not be considered for more than 1 mark.

Question 1 (b)

   (b)   Identify the type of data that is collected by the sensors.

   .... **[1]**

Many candidates were able to correctly identify that the type of data collected by the sensors would be primary, numerical, or quantitative.

Question 1 (c)

(c) Explain, using an example, why it is important that the data collected from the sensors demonstrates the **integrity** principle of data security.

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.... **[4]**

Some candidate's mis-interpreted this question and focussed their response on security rather than the security principle of integrity. It is important that candidates focus their response on the requirements of the question. Details about how the collected data sensor is used were provided in the case study.

Where candidates focussed their response on integrity, they were able to provide a detailed explanation that included the data is used to make remote adjustments to the bike so needed to be accurate and complete. Where an example is required, it is important that this relates to the focus of the question to be able to be considered for marks. Acceptable examples could include fuel settings, as provided in the case study.

Question 1 (d)

The technical team converts the collected data into a graph to enable the data to be analysed.

(d) Identify the data analysis tool the graph would be included in. Justify your choice.

Data analysis tool ....

Justification ....

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[4]

Details were provided in the case study about how the collected sensor data could be converted in a graph. It was noted that many candidates provided responses that related to a spreadsheet which is the software that could be used to convert the data to a graph. This, and other responses to this question appeared to demonstrate a knowledge gap relating to the different types of data analysis tools as defined in the unit specification.

If candidates did not access the mark allocated for identifying the correct data analysis tool, they were unable to be considered for marks for the justification.

Where candidates did provide the correct response, visualisation of data, they then went on to provide a clear and detailed justification. Acceptable justifications included the fact that graphs can enable complicated data to be visualised and analysed.

Question 2 (a)

2   The data collected from the sensors on the bike is automatically uploaded to a secure cloud storage area.

   (a)   Identify the information format that the cloud storage area would be included in. Justify your choice.

Information format ....

Justification ....

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[4]

Details were provided in the case study about how the collected sensor data is automatically uploaded to a secure cloud area. Some of the responses to this question appeared to demonstrate a knowledge gap relating to the different types of information formats as defined in the unit specification.

Where candidates did provide the correct response, document store, they then went on to provide a clear and detailed justification. Acceptable justifications included that the data can be uploaded and stored securely until PHGP needs it and the PH GP teams can access the data from different locations such as trackside or at the race team base.

If candidates did not access the mark allocated for identifying the correct information format, they were unable to be considered for marks for the justification.

Question 2 (b)

(b) Describe **one** advantage and **one** disadvantage to the PH GP team of uploading the data to the secure cloud storage area.

Advantage ....

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Disadvantage ....

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[4]

The focus of this part of the question was on the advantage and disadvantage of uploading the data to the secure cloud area. Many candidates were able to access 1 mark each for the advantage and disadvantage. To access the 2nd mark allocated for the advantage and disadvantage the response needed to be fully applied and relevant to the PH GP, such as detailing who could access the area and from where. This could include details such as the technical team at the race base being able to access data uploaded by the trackside technical team.

However, many candidates provided generic further description in their response which did not apply to PH GP. This strategy limited the accessibility to the 2nd marks available for the advantage and disadvantage.

Question 3*

3* Discuss the security methods that could be used by PH GP to maintain the security of the collected data on the cloud storage area.

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.... **[10]**

This question was marked using a banded response method. Candidates were given marks based on the level of detail included in their response, and the application of their response to the case study.

The question also incorporated the quality of the response in terms of correct use of technical terms and the coherent use of reasoning. This is denoted by the use of a * next to the question number with candidates being informed of this in the rubric on the front of the examination paper.

To be given a mark in the middle mark band, candidates had to describe the security methods that could be used by PH GP to maintain the security of the data. The case study provided details relating to how the cloud storage area is used by PH GP and this should have led to responses to this question focussing on the logical protection measures.

Acceptable methods included the use of password protection, firewalls, and encryption.

The greatest barrier to candidates being given the higher mark in the middle mark band was the lack of application to the case study and the level of detail provided. For example, describing the rules for selecting a password would then need to go on to provide further detail about how these rules would increase security.

The level of detail provided, the evidence of explanations, with appropriate application, and examples related to PH GP could enable candidates to be considered for a mark in the highest mark band. Candidates who achieved a mark in the highest mark band provided detailed explanation of a range of different security methods including relevant examples and using subject specific terminology.

Question 4 (a)

4   PH GP provides the riders with team orders.

   (a)   Identify the information style the team orders would be included in.

   .... **[1]**

Many candidates were able to correctly identify that the team orders would be included in the audio information style. Details were provided in the case study relating to how team orders are provided to the riders.

Question 4 (b)

   (b)   Explain why it is important that the team orders provide good quality information to the rider.

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   .... **[3]**

The focus of this question was on the importance of good quality information being provided to the rider. Acceptable responses included the fact that good quality information could be understood by the rider with little, if any, confusion. Some candidates responded conversely to the question by detailing what could happen if the orders were not of good quality. This was an acceptable strategy as long as the response clearly defined and specified that the response related to this.

Question 5 (a)

5 During the race, fans can watch the race and read live text commentaries on the circuit website.

(a) Explain why dynamic webpages are used for displaying the live text commentaries.

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.... **[3]**

Many of the responses to this question demonstrated a knowledge gap relating to dynamic webpages. There appeared to be a misconception that dynamic webpages need to be refreshed to see the live updates.

Where candidates did have a good knowledge about this area of the unit specification, they were able to access all allocated marks. Acceptable responses included details relating to dynamic pages automatically update the text commentaries when they are submitted to the web page.

Question 5 (b)

The racers post blogs to their webpages. The blogs can be included in the public information classification.

(b) Explain why the blogs would be included in the public information classification.

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.... **[3]**

Many candidates were able to access all marks allocated to this question. The main focus of the responses was that blogs do not contain sensitive or private information so this information can be released into the public domain.

Section B overview

Candidates did not need to apply their responses to PH GP in this section of the external examination.

The scenario for this section related to an independent theatre based in Bristol. As such, all examples, where required, should be applicable to this scenario.

Question 6 (a)

A small independent theatre puts on events such as plays and talks by celebrities.

The theatre is located in the centre of Bristol.

6   (a)   Identify the category of information holder the theatre would be included in.

.... **[1]**

Many candidates were able to correctly identify that the theatre would be included in the business or organisation category of information holders.

Question 6 (b)

All bookings for the events are done online by customers through the theatre's website.
As part of the booking process, customers select the seats they would like to book from a seat plan.

The seat plan shows the location of the seats in the theatre and their price.

(b)   Identify the information style the seat plan would be included in.

.... **[1]**

Many candidates were able to correctly identify that the seat plan would be included in the graphic or image category of information style.

Question 6 (c)

(c) Explain why the seat plan and the price of each seat need to demonstrate the characteristic of validity.

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.... **[3]**

The focus of the question was the application of knowledge about validity to the seat plan and prices. Many candidates were able to provide details relating to what validity is, being correct and up to date. This then led them to provide further details about seats could be double booked if the pan was not valid or the different process that can be applied to different seat location.

It was obvious that many of the candidates drew on their personal experiences when responding to this question.

Question 7 (a)

7 When the seats have been chosen the customer pays for the seats using a secure payment process.

Customers have to input their contact and payment details.

(a) The payment details are stored by the theatre and are completely anonymised.

Explain what is meant by completely anonymised.

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.... **[3]**

The responses provided to this question were varied with some demonstrating knowledge gaps. Where candidates provided a correct response, they were able to access all allocated marks. A technical definition was required which included details relating to the data having all links to a person removed.

There did appear to be a misconception relating to completely anonymised data having the data replaced by a symbol such as a star (*).

Question 7 (b)

(b) Explain **one** positive impact to the customers of their payment details being completely anonymised.

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.... **[3]**

Many candidates were able to access at least 1 mark for this question, that being awarded for details relating to customers will know that their payment details are safe. There was a correlation between those candidates gaining all allocated marks for part (a) of this question and being awarded all allocated marks for this part of the question.

Where candidates did score well, they then went on to explain that the names of the customers could not be linked to the payment details so there was not enough detail to be able to use the payment details if the theatre was the victim of a data breech.

Question 7 (c)

(c) Identify and describe **one** impact that could affect the flow of information during the booking process.

Impact ....

Description ....

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[3]

Many candidates provided vague details relating to the identification of the impact. Vague impacts provided included server issues. Candidates working at this level should be able to provide specific rather than generic points. Acceptable impacts included a high volume of users or unstable internet connection.

If candidates did not access the mark allocated for identifying a correct impact, they were unable to be considered for marks for the justification.

Question 8 (a)

8 After each event, the theatre uses charts and graphs to analyse the sales of each type of seat.

(a) Explain, using an example, how charts and graphs could be used to analyse the sales of each type of seat sold.

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.... **[4]**

Many candidates were able to access the allocated marks for defining that the theatre could visually see which type of seats had sold the most or least.

However, some candidates focussed their response to this question on the different types of charts & graphs that could be used. For example, defining how a bar chart could be created including, in some instances, defining the labels to be used on the X & Y axis. This strategy did not fully answer the question which resulted in a decrease in potential accessibility to the allocated marks.

When analysing data, graphs and charts can be used to visually show data which can be interpreted by showing trends and patterns. Some candidates used an example of a graph / charts, for example a bar chart, to exemplify a response that related to being able to identify the most and least popular seats in the theatre. This strategy enabled candidates to clarify their response.

Question 8 (b)

The graphs and charts could be included in the marketing, promotion, and sales category of information.

(b) Explain why the graphs and charts would be included in the marketing, promotion, and sales category of information.

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.... **[4]**

This question related to the analysis of the sales of the seats and why the created graphs and charts could be included in the defined category of information. Many candidates were able to access 2 of the allocated marks by providing details relating to the fact that graphs can be used to show the most / least popular seats but then did not apply this to the information category.

Acceptable application could include prices could be changed based on seat sales, or discounts could be offered to targeted groups based on the analysis of the graphs and charts.

Question 9*

9* The theatre has a website which is used to advertise upcoming events.

Photographs of the stars and celebrities are shown.

Discuss the actions that should be taken by the theatre to comply with the Copyright, Designs and Patents Act 1988 when using photographs of the stars and celebrities.

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.... **[10]**

This question was marked using a banded response method. Candidates were given marks based on the level of detail included in their response, and the application of their response to the context – the theatre.

The question also incorporated the quality of the response in terms of correct use of technical terms and the coherent use of reasoning. This is denoted by the use of a * next to the question number with candidates being informed of this in the rubric on the front of the examination paper.

To be given a mark in the middle mark band, candidates had to describe the actions that needed to be taken by the theatre to comply with the Copyright, Designs & Patents Act. Acceptable actions that needed to be taken included checking the copyright status of the photographs, asking for permission to use copyrighted photographs or using copyright free photographs.

Many candidates provided responses that described the generic implications of the Act rather than focussing on the actions that needed to be taken by the theatre. This strategy limited accessibility to the higher marks.

In addition to this, the greatest barrier to candidates being given the higher mark in the middle mark band was the lack of application to the theatre and the level of detail provided. For example, describing that permission needed to be gained but failing to define who the permission needed to be gained from.

The level of detail provided, the evidence of explanations, with appropriate application, and examples related to the photographs of the stars could enable candidates to be considered for a mark in the highest mark band. Candidates who achieved a mark in the highest mark band provided detailed explanation of a range of different actions including relevant examples and using subject specific terminology.

Question 10 (a)

10   The theatre has a social media page.

The social media page is used to keep customers up to date about upcoming events and to give news updates about the theatre.

Reviews of the events can be posted by customers.

(a)   Identify the category of information the reviews would be included in.

.... **[1]**

Many candidates were able to correctly identify that the reviews would be included in the communication or entertainment category of information.

Question 10 (b)

(b)   Describe **one** advantage and **one** disadvantage to the theatre of using social media.

Advantage ....

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Disadvantage ....

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[4]

The focus of this part of the question was on the advantage and disadvantage of the theatre using social media. Many candidates were able to access 1 mark each for the advantage and disadvantage. To access the 2ⁿᵈ mark allocated for the advantage and disadvantage the response needed to be fully applied and relevant to the theatre rather than generic points.

Question 10 (c)

The theatre has posted a news update about their use of Green IT.

(c) Explain **one** requirement of Green IT on the theatre.

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.... **[3]**

Many candidates were able to provide a clear explanation of a requirement of Green IT. However, there were some responses that related to, for example, recycling the scenery used in the theatre which, although is applicable to the theatre, does not relate to Green IT.

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