CAMBRIDGE TECHNICALS LEVEL 3 (2016)

Examiners' report

IT

05838−05842, 05877

Unit 2 Summer 2024 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. A selection of candidate answers is also provided. 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

It was pleasing to note that 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 make sure 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 few candidates were unfamiliar with the context of the pre-release case study. For this external examination this was PHBC. This apparent lack of familiarity limited candidates' accessibility to many of the questions in Section A of the external examination where the questions are 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 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 Teach Cambridge that relate to the interpretation of the case study and exemplification / analysis of candidate responses from previous sessions.

Candidates who did well on this paper generally:	Candidates who did less well on this paper generally:
• applied their responses in Section A to the pre-release case study • answered questions and provided examples in Section B in the given context of an insurance company website • 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 and examples which did not apply to the context in Section B

Section A overview

This section of the external examination was directly linked to the case study, PHBC.

Question 1 was directly linked to bullet point 2 of the research points.

Question 2 was directly linked to bullet point 3 of the research points.

Question 3 was directly linked to bullet point 4 of the research points.

Question 4 was directly linked to bullet point 5 of the research points.

Question 5 was directly linked to bullet point 1 of the research points.

Question 1 (a)

1   When a course is booked, a pupil list is completed by the organiser.

(a)   One information style used on the pupil list is text.

Complete the table to show **two other** information styles used and the column heading.

Information Style	Column Heading

[4]

This question focused on the information styles used on the pupil list. The column headings were provided in the pre-release case study. To be given marks for the column heading, the information style needed to be correct.

Many candidates were able to access all marks allocated by correctly identifying two different information styles and the linking column heading.

However, as can be seen by this exemplar, some candidates provided text as an information style. Text was included in the question with candidates asked to use **two other** information styles. This strategy meant that candidates were limited to a maximum of 2 marks for this question.

Exemplar 1

Information Style	Column Heading
Boolean	Allergy
Text	Details of allergies

Question 1 (b)

(b) Explain why it is important that the information entered into the **'Details of allergies'** column is of good quality.

....

....

....

....

....

.... **[3]**

The focus of this question was on the need for good quality information in the details of allergies column. Many candidates provided responses focusing on what would happen if the information was not of good quality. This is an acceptable strategy and was considered for marks.

One acceptable response was that 'if the information was not of good quality, then pupils could eat food that they are allergic to'.

Question 2 (a)

2   The Data Protection Act (DPA) needs to be considered by PHBC as they store personal details.

(a)   One action that needs to be taken to comply with the DPA is to keep data secure.

Identify **two other** actions that need to be taken by **PHBC** to comply with the DPA.

Action 1 ....

....

Action 2 ....

....

[2]

This question focused on the actions that need to be taken to comply with the Data Protection Act (DPA). The question stated one action – keeping data secure - which means that any answer related to security were not considered for marks, for example those answers relating to the use of logical or physical protection measures, such as passwords.

Those candidates who provided answers not relating to security, such as appointing a data controller, were able to access all allocated marks.

Assessment for learning

Candidates need to read the question carefully and make sure they only give the required number of responses. If they give more than is required, then only the required amount will be marked starting at the top of their response. For example, if the question asks for two points and they give three, only the first two they have written will be marked.

Question 2 (b)*

(b)* Discuss the impacts and consequences to **PHBC** of non-compliance with the DPA.

....

....

....

....

....

.... **[10]**

This question was marked using a levels of 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 an asterisk (*) 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 impacts / consequences of non-compliance with the DPA. Acceptable impacts included fines from the Information Commissioner's Office (ICO) and the time required to review physical / logical security. Consequences that were acceptable included the damage to PHBC's reputation with customers, pupils and Multi-Academy Trust's (MAT's) and increased costs for, for example staff training or security protection.

The greatest barrier to candidates being given the higher marks in the middle mark band was the lack of application to the case study, the level of detail provided and providing a range of impacts and consequences.

The level of detail provided, the evidence of explanations, with appropriate application, and examples related to PHBC could help 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 impacts and consequences including examples applied to PHBC and the correct use of subject specific terminology.

Assessment for learning

To do well on Section A 'discuss' questions candidates need to provide details and respond using the information provided in the pre-release case study. They need time to practice these skills during the teaching and learning phase in order to be able to access the higher mark bands in the exam

Question 3 (a)

3 PHBC use the logical protection methods of encryption of data in transit and password.

(a) Identify when each logical protection method is used by **PHBC**.

Encryption of data in transit ....

....

Password ....

....

[2]

This question focused on when PHBC use the defined logical protection measures. Details relating to logical protection measures were provided in the pre-release case study. As can be seen in the example, many candidates provided a generic response to this question, demonstrating knowledge of the protection measures but did not focus on when these were used by PHBC.

Those candidates who achieved all allocated marks provided responses relating to the uploading of online forms and accessing the secure area of the PHBC website.

Exemplar 2

Encryption of data in transit ......is used for the personal details of the customer.

Password ....to stop unauthorised users from accessing the data.

Question 3 (b)

(b) Describe how each method protects the data.

Encryption of data in transit ....

....

....

....

Password ....

....

....

....

[4]

This question focused on how each method protects data.

Many candidates were able to access one of the allocated marks for describing encryption. The barrier to being given the 2nd mark was the omission of how the data can be unencrypted, i.e. by using a key.

Many candidates were able to access the allocated marks for password by detailing that a password stops unauthorised access to the data.

Question 4 (a)

4 The talent shows are live streamed using a tablet.

(a) Identify **one** physical protection method that could be used to protect the tablet.

....

.... **[1]**

This question was generally well answered with many candidates stating that the tablet could be locked away in a, for example, room. A response of 'locks' was too vague to be given a mark as it is not clear what sort of lock or where the lock would be used. There were some instances of candidates providing security guard as a response, given the context of PHBC this would not be appropriate.

There were some instances of candidates providing a logical protection measure which demonstrated a knowledge gap relating to the different types of protection measures.

Question 4 (b)

(b) Identify the type of storage device the tablet would be included in.

....

.... **[1]**

> This question was generally well answered with many candidates being able to identify the tablet as being portable or handheld.

Question 4 (c)

(c) Describe **one** advantage and **one** disadvantage to **PHBC** of using the tablet to live stream the talent shows.

Advantage ....

....

....

....

Disadvantage ....

....

....

....
[4]

> The focus of this question was on PHBC using a tablet to live stream the talent shows as detailed in the pre-release case study. The responses to this question were varied with many candidates achieving at least one mark allocated for the advantage and disadvantage.
>
> The most common response for the advantage is that the tablet is portable so can be used to film from a range of angles during the live streaming talent show. The most common disadvantage was that tablets have a battery which, if not charged, may run out during the talent show which would mean the live stream would stop.
>
> Where a question has a focus, for example in this question on PHBC, it is important that, to be considered for marks, candidates apply their knowledge to this focus.

Question 4 (d)

(d) Describe **one** advantage to the pupils' **parents and carers** of the talent show being live streamed.

....

....

....

.... **[2]**

The focus of this question was an advantage to parents and carers of the talent show being live streamed. Many candidates were able to access all allocated marks providing details that included the talent show can be watched at any location, for example home or work, as along as an internet connection is available.

Where a question has a focus, for example in this question parents and carers, it is important that, to be considered for marks, candidates apply their knowledge to this focus.

Question 4 (e)

(e) Describe **one** disadvantage to **PHBC** of the talent show being live streamed.

....

....

....

.... **[2]**

The focus of this question was a disadvantage to PHBC of the talent show being live streamed.

Where a question has a focus, for example in this question on PHBC, it is important that, to be considered for marks, candidates apply their knowledge to this focus.

Acceptable disadvantages included the fact that as PHBC is located in a woodland or rural area the internet connection may not be stable or fast enough to live stream the talent show without lagging or buffering.

Question 5

5 The PHBC website contains activity instructional videos.

Describe **one** advantage and **one** disadvantage to **PHBC** of accessing and playing the activity instructional videos.

Advantage ....

....

....

....

Disadvantage ....

....

....

....

[4]

The focus of this question was on an advantage and disadvantage of accessing and playing the activity instructional videos. Details were provided in the pre-release case study about these videos and what can be included.

Those candidates who achieved maximum marks for this question fully applied their answers to PHBC rather than any other audience. Details were also provided about how the information was explained – a spoken commentary. Those candidates who focused on the format of the commentary provided an advantage of those with a visual impairment could listen with the converse disadvantages being that unless there are sub-titles those with a hearing impairment may not understand.

A misconception was that the videos could be stolen and used by other companies. This did not attract marks as, while this is a valid point, it could not be applied to the situation used in the question of accessing and playing the videos.

Where a question has a focus, for example in this question on PHBC, it is important that, to be considered for marks, candidates apply their knowledge to this focus.

Assessment for learning

Where a question requires advantages/disadvantages or benefits/limitations, candidates should make sure the ones selected are appropriate and can be applied to the focus of the question.

Section B overview

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

The scenario for this section related to an insurance company with the focus on motor insurance. As such, all examples, where required, should have been applicable to this scenario.

Question 6 (a)

6

(a) Customers use the internet to access the insurance website.

Identify **two** characteristics of the internet.

Characteristic 1 ....

....

Characteristic 2 ....

....

[2]

The characteristics of the Internet are defined in the unit specification, LO1.5. Many candidates provided responses relating to how the Internet can be used rather than characteristics. The most common correct answers were open access, public or global. Alternative wording to these characteristics were accepted for marks to be given.

Question 6 (b)

(b) Customers can access the insurance website using a smart phone.

Identify the type of internet connection that would be used when using a smart phone to access the website.

....

.... **[1]**

Most candidates were able to provide an appropriate internet connection.

Question 6 (c)

(c) The insurance website has static and dynamic webpages.

Compare static and dynamic webpages.

....

....

....

....

....

....

....

.... **[4]**

The focus was on the comparison of the use of static and dynamic webpages. Many candidates demonstrated a knowledge gap about this part of the unit specification, LO1.6, with responses provided that detailed static webpages have only text and static images while dynamic webpages include videos and interactive components.

To achieve two marks a correct point about both static and dynamic webpages needed to have been made as a true comparison. If a point about either was made, then a maximum of 1 mark could be given. To be given the full allocated marks for this question, 2 complete comparisons needed to be made.

The comparisons needed to be shown in the response concurrently. Where candidates provided their response in discrete sentences or two separate paragraphs then a maximum of 1 mark could be given.

Assessment for learning

In 'compare' questions candidates must put the comparisons between the two items together to be given both marks. If their response is split into two separate sentences or paragraphs, they will only be given 1 mark.

Question 6 (d)

(d) The company email address is shown on the website home page.

Identify the information classification the email address would be included in.

Justify your choice.

Classification ....

....

Justification ....

....

....

....

....

....

[4]

Where candidates did provide an appropriate information classification, LO2.2, they then went on to provide a clear and detailed justification. Acceptable classifications were non-sensitive, business, or public.

Acceptable justifications included that the email address could be used to contact the insurance company to answer questions and the email address will not cause harm to the insurance company as it has been publicly released.

There did appear to be a misconception that the details would be included in the private or personal classification.

If candidates did not access the mark allocated for identifying the correct information classification, they could not be considered for marks for the justification.

Question 7 (a)

7 Customers enter the registration number of the car they want to insure. The registration number is checked against the DVLA database which holds details of all vehicles in the UK.

(a) Explain why the registration number entered by customers should demonstrate the characteristic of validity.

....

....

....

....

....

.... **[3]**

This question targeted LO2.3 of the unit specification. The question focused on why the registration number should be valid and not a generic definition of valid / validity as demonstrated by some candidates.

A converse approach was acceptable in that if an invalid registration number is entered then the customer may insure someone else's car.

Question 7 (b)

(b) Identify the type of information source the data entered by the customer would be included in.

....

.... **[1]**

Many candidates demonstrated a knowledge gap relating to LO5.1 of the unit specification by confusing internal and external information sources, with the correct response being external. Primary was an acceptable alternative response although this is a data type in this unit.

Question 7 (c)

(c) The DVLA database is an example of **big data**.

Explain, using an example, what is meant by the term **big data**.

....

....

....

....

....

....

....

.... **[4]**

A definition of big data is provided in the unit specification, LO3.3. Many candidates were able to access at least 1 mark for detailing that big data is a lot of data. To be given the other allocated marks some indication of the fact that big data is complex and cannot be processed using traditional data analysis techniques.

The question required an example which needed to be in the context of the insurance company or the DVLA. Where candidates did not provide a relevant example this mark could not be accessed.

Question 7 (d)

(d) Identify which data type the data received from the DVLA would be included in.

....

.... **[1]**

As with question 7(b), many candidates demonstrated a knowledge gap relating to LO5.1 of the unit specification by confusing primary and secondary data types, with the correct response being secondary data type.

Question 7 (e)

(e) Identify the information management step that would be carried out when the insurance quote is being calculated.

....

.... **[1]**

Many candidates did not identify the information management step, LO3.4, demonstrating a knowledge gap relating to this area of the unit specification. The step was processing as the quote would be based on data already entered by the customer.

Question 8 (a)

8

(a) The insurance company must ensure that the stored customer details demonstrate the information security principle of confidentiality.

Explain, using an example, what is meant by the information security principle of confidentiality.

....

....

....

....

....

....

....

.... **[4]**

This question focused on the confidentiality principle of information security, LO6.1. Many of the responses to this question appeared to demonstrate a knowledge gap with the responses focusing on the generic issues of information security rather than on the confidentiality principle.

Acceptable responses included that confidentiality is a legal requirement under data legislation and that only authorised people should be able to access the data.

The question required an example which needed to be in the context of the insurance company or the DVLA. Where candidates did not provide a relevant example, this mark could not be accessed.

Question 8 (b)

(b) Identify the legislation that relates to accessing the customers' data without permission.

....

.... **[1]**

Many candidates were able to identify the correct legislation as being the Data Protection Act (DPA), (General Data Protection Regulation (GDPR) or Computer Misue Act. The year, if provided, was not considered when marks were being given.

Question 8 (c)

(c) Identify the Information Commissioners Office (ICO) code of practice that relates to how the customers' data can be used between organisations.

....

.... **[1]**

Few candidates were able to provide a correct answer to this part of the question, Data Sharing code, so demonstrating a knowledge gap relating to parts of LO4.1 of the unit specification.

Question 8 (d)*

(d)* The insurance company uses data analysis tools to analyse and manage the data collected during the quotation process.

Discuss the use of data analysis tools by the insurance company when analysing and managing their stored data.

....

....

....

....

....

.... **[10]**

This question was marked using a levels of 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 of Section B. 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 an Asterix (*) 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 at least one data analysis tool that could be used by the insurance company when analysing and managing their stored data. The question partly focused on analysing data which should have elicited a discussion on the use of visualisation of data and trend and patterns analysis tools. Other appropriate data analysis tools could include data cleaning and data tables as these can both be used to manage stored data.

The greatest barrier to candidates being given the higher marks in the middle mark band was the lack of application to the case study and the level of detail provided. For example, identifying the data analysis tools but failing to apply these to the analysis and management of stored data. The level of detail provided, the evidence of explanations, with appropriate application, and examples related to both analysis and management of stored data could help 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 appropriate data analysis tools, covering the analysis and managements of the stored data, included examples and correctly used subject specific terminology.

Assessment for learning

Candidates need to know about the different data analysis tools Part of LO3.5 in the specification. They need to be able to select the correct data analysis tools(s) based on a given context and may need to be able to justify or discuss their choices.

Question 9 (a)

9 The quotation process is being redeveloped. A L1 data flow diagram (DFD) will be created of the current process.

(a) Identify **two** components of a L1 DFD.

1 ....

....

2 ....

....

[2]

> There are a range of components that are used in a L1 DFD as detailed in the unit specification LO5.2. It was noticeable that many candidates appear to have a knowledge gap relating to this LO with many answers relating to a flowchart.

Misconception

? The components used for each method of diagrammatically representing flows of data in a system are different. It is important that candidates are aware of each method and the relevant components used in each method.

Question 9 (b)

(b) One connectivity rule for drawing a L1 DFD is that data flows only in one direction.

Identify **two** other connectivity rules.

1 ....

....

2 ....

....

[2]

> Some connectivity rules for L1 DFD's are provided in the unit specification, LO5.2. There are other connectivity rules that can also be relevant to L1 DFD's. As with part (a) of this question, many candidates demonstrated a knowledge gap with rules provided that related to flowcharts or other diagrammatical methods of representing data flows.

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