

CAMBRIDGE TECHNICALS LEVEL 3 (2016)

Examiners' report

IT



05838–05842, 05877, 05885, 05886

Unit 1 January 2020 series

Version 1

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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 can be downloaded from OCR subject [web](#) page.

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ExamBuilder

Remember to keep your eye on ExamBuilder as we continue to update the bank of questions post exam series in line with our past paper policy. Therefore, you can be assured that new assessment material will continually be fed into [ExamBuilder](#) on an annual basis.

Online post series external feedback

Keep an eye out for feedback for our post series feedback on Exams for Cambridge Technicals Webinars available in the autumn term.

Paper Unit 1 series overview

This session has certainly seen an increase in candidates that have been prepared with applying the specification in mind. Some candidates evidenced knowledge directly attributable to the specification and applied it correctly. There has been an increase in the depth of subject knowledge from some candidates.

However, some candidates appeared to have little more than general knowledge in certain areas of the unit content. Candidates should have knowledge of all the unit content before being entered for the external examination.

A reduction in the number of word processed responses was seen and the layout of these provided a clearer identification of the question number, e.g., 16a 1 and 16a 2 as separate answers. This has made the task of marking these candidates much more straightforward and is appreciated.

For Section A, most candidates attempted all the questions.

Section B of this unit features a brief context. Overall the context was used by the majority of candidates in answering the questions although some struggled to relate their answers to manufacturing and design buildings with CAD and CAM PCs.

A reasonable proportion of candidates provided responses for all the questions in Section B.

Good examination technique suggests that the candidate constructs their responses in the format indicated in the question to gain full marks, e.g. identify and describe. There was evidence of some knowledge gaps from the candidates' responses to the more technical questions in Section B, particularly in Question 17 (see below).

Some centres have made past papers part of their revision strategy, which is a positive step, resulting in candidates understanding the key question words mentioned above. However, some candidates appeared to have learnt the answers from past examination papers and guessed where they might be appropriate in this series. This helped them to some extent in answering several questions on this paper, in particular Question 20a. However, candidates do need to be able to adapt their responses to meet the requirements and context of live examination questions.

Section A overview

Candidates continue to score a wide range in this section, however compared to other sessions there seem to have been less candidates scoring full marks. It is appropriate that candidates scoring lower marks in this section would also not be able to demonstrate a deep enough understanding of the course to be able to answer Section B well.

Candidates who achieved 14/15 for Section A would usually lose the mark for Question 7.

Question 1

1 Which wireless technology requires 'pairing'?

(a) Bluetooth

(b) Laser

(c) Microwave

(d) Wifi

[1]

Candidates were asked to identify which wireless technology required 'pairing'. A high proportion of candidates were able to identify (a) Bluetooth as the correct response.

Question 2

2 When using troubleshooting tools, a log can help to:

(a) record hardware faults

(b) fix hardware faults

(c) quarantine hardware faults

(d) remove hardware faults

[1]

Candidates needed to complete the sentence by selecting the correct response. A high proportion of candidates chose (a) record hardware faults.

Question 3

3 Which productivity software is the **most** appropriate for creating a mail merge letter template?

(a) Database

(b) Email

(c) Spreadsheet

(d) Word processor

[1]

Candidates needed to identify productivity software most appropriate for creating a mail merge letter template. Many candidates recognised that (d) Word processor would be the productivity software most appropriate for this task.

Others chose (b) Email which might be used to send the merged letter but is communications software not productivity software.

Question 4

4 Which business software is **most** suitable for creating a safety poster?

(a) CAD

(b) CAM

(c) MIS

(d) DTP

[1]

Candidates were asked to select which business software was most suitable for creating a safety poster. The ability to answer this question correctly seemed to be centre based with some centres having a high proportion of candidates that knew that DTP (Desk Top Publishing) software was business software suitable for creating a poster.

A very high proportion of candidates of all abilities chose (a) CAD (Computer Aided Design).

Question 5

5 Which communication software enables several users to participate in a meeting over the phone?

(a) Messaging

(b) Personal assistants

(c) Teleconference

(d) Video conference

[1]

This was related to software for a meeting over the phone. A good proportion of candidates selected the correct answer (c) Teleconference. Others mostly chose (d) Video Conference.

Question 6

6 Which software troubleshooting tool tests computer performance against an established norm?

(a) Baseline

(b) Error logs

(c) Event logs

(d) Installable tools

[1]

The question described a software troubleshooting tool and asked candidates to identify it from the description. Quite a few candidates recognised (a) Baseline as the troubleshooting tool. Other answers were more mixed which suggested that candidates did not know sufficient detail about the troubleshooting tools.

Question 7

7 Which of the following is an error reporting protocol?

(a) ICMP

(b) FTP

(c) HTTP

(d) SMTP

[1]

Candidates were asked to identify an error reporting protocol. A fairly small number of candidates correctly identified (a) ICMP as the correct response. Other responses were quite mixed with HTTP and FTP often identified. This suggests that some candidates have not had enough input on various protocols.

Question 8

8 A business stores its data off-site on computers run by another company. This is an example of:

(a) Client virtualisation

(b) Cloud virtualisation

(c) Server virtualisation

(d) Storage virtualisation

[1]

Candidates were asked to complete a sentence by selecting the correct type of virtualisation from those listed. There were sufficient characteristics provided in the first statement to enable a good proportion of candidates to correctly complete the sentence by selecting (b) Cloud virtualisation. Other responses were quite mixed between (a) Client virtualisation and (d) Storage virtualisation.

Question 9

9 Which business system allows managers to organise and manage departments?

(a) Customer relationship management

(b) Helpdesk

(c) Management information system

(d) Sales ordering process

[1]

Candidates were asked to identify a business system which allows managers to organise and manage departments. The options were provided in full rather than the acronyms that might have been more easily recognised by candidates. As only one answer ended with the word 'system' it is not surprising that most candidates correctly identified (c) Management information system. A few others identified (b) Helpdesk.

Question 10

10 Which of the following methods allows participants to use body language to aid communication?

(a) Emails

(b) Group discussions

(c) Telephone

(d) Teleconferencing

[1]

The question required candidates to identify a method of communication which allowed body language to be used. A good number of candidates were able to correctly identify (b) Group discussions. A small number of candidates chose (d) Teleconferencing.

Question 11

11 Which of the following does **not** demonstrate readiness to work through appearance?

(a) Appropriate clothing

(b) Can-do-attitude

(c) Combed hair

(d) Use of deodorant

[1]

This question required candidates to distinguish between a list of items to do with readiness to work and personal attributes and select the one that was not a demonstration of readiness to work, i.e., the personal attribute. A reasonable proportion of good responses selected (b) Can-do-attitude. Others tended to choose (c) Combed hair or (d) Use of deodorant.

Question 12

12 Which of the following is an ethical issue that businesses **must** consider?

(a) Disaster planning

(b) Health and Safety

(c) Social engineering

(d) Use of Information

[1]

Candidates needed to be able to identify an ethical issue among operational, legal and security issues. A few good responses identified (d) Use of Information as the ethical issues. Rather more identified either the operational issue (a) Disaster planning or the legal issue (b) Health and Safety. This indicates a gap in knowledge between the types of issues.

Question 13

13 Which of the following is attempting to gain unauthorised access to a computer system?

(a) Eavesdropping

(b) Hacking

(c) Interception

(d) Phishing

[1]

A high proportion of candidates were able to correctly identify that (b) Hacking, was an attempt to gain unauthorised access to a computer system. A few others identified (d) Phishing.

Question 14

14 Which physical security method requires the user to have a key or a code?

(a) Fingerprint scan

(b) Iris scan

(c) Lock

(d) RFID

[1]

A good proportion of candidates correctly identified (c) Lock, as a physical security method that required a key or a code. A few others identified (d) RFID.

Question 15

15 Which digital security method enables the system administrator to allow users access to different data or software on a system?

(a) Anti-virus

(b) Encryption

(c) Permissions

(d) Usernames & Passwords

[1]

The question asked candidates to identify which digital security method enabled the system administrator to allow users access to different data or software on a system. A good proportion of candidates chose (c) Permissions. A few others chose (d) Usernames & Passwords.

Section B overview

It is clear from the number of missing questions in Section B for some candidates that some centres are entering students in a January series examination having started the course in September. The candidate will not have acquired enough technical grasp of this unit in such a short period of time.

It is also apparent that centres are using the advice in the examiners' report to inform teaching, especially the message on teaching to the specification. The specification provides clear guidance on categorisation of software for example and the examination frequently asks the candidate to make such distinctions.

Candidates have improved their methods for answering the level of response questions, but in general are still lacking the deeper technical knowledge that this paper demands.

Question 16 (a)

GalenTyrol Engine Solutions (GES) is an engineering company that creates prototype engines for its clients. GES uses Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) in the creation process.

The company is based on one site with three main buildings. The main office has 8 personal computers which are used for office administration. The design building has 6 personal computers which are used by the designers for CAD. The manufacturing building contains the CAM computers and machinery used by the company engineers.

16 (a) The CAD designers use a range of input devices to create their designs.

Identify and describe **two** input devices that could be used.

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[4]

Candidates were asked to identify and describe two input devices that could be used by the CAD designers. A reasonable number of good responses correctly identified an input device and described how both of them were operated. While others could identify one or two input devices and description one of them. A small number of responses identified output devices for which they received no marks.

Question 16 (b)

- (b) GES takes video footage of the prototype engines being manufactured to send to their clients. The USB connections have been disabled on all company PCs.

Identify and describe **one** type of port that could be used to download the video footage from the camera.

.....

.....

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.....[2]

Candidates had been informed that the USB ports were disabled. They were asked to identify and describe one other type of port that could be used to download video footage from a camera. A few good responses identified an SD card port and described how it would be used to transfer the video from the camera to the PC. A few identified a FireWire but were not able to describe how it was used in sufficient detail. Others provided responses not related to the use of a port on the PC for which they received no marks.

Question 16 (c)

- (c) The personal computers in the design building have had graphics expansion cards installed.

Identify and describe **one** benefit to the designers of using the graphics expansion cards.

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.....[2]

This was a high level technical question and as such there were very few candidates that could explain a benefit of a graphics card. Many candidates described the images looking better on the monitor but did not give a technical description of what the expansion card does. A small proportion of candidates provided no response to this question.

Question 16 (d)

(d) Designers order 3D printer filaments by communicating with the staff in the main office.

Identify and describe **one** item of communications hardware required to communicate with main office using a tablet PC.

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.....[2]

The question asked candidates to identify and describe one item of communications hardware required to communicate with the main office using a tablet pc. A small number of good responses correctly identified a wireless access point and described how this would connect a wireless device to a wired network.

A wide range of items were identified by others some of which were not hardware or communications devices. There was evidence of a lack of knowledge about communications hardware in the context of tablet pcs.

Question 16 (e)

(e) The designers need to convert decimal numbers into hexadecimal.

Convert the following decimal numbers into hexadecimal. You should show all your working.

134

.....

.....

244

.....

.....

[2]

Candidates were asked to convert two numbers from decimal to hexadecimal and show their working. Many good responses converted the numbers to binary and then hexadecimal. Some divided the numbers by 16 and converting the result and the remainder to hexadecimal. Others attempted the question but only achieved the binary conversion. Several candidates did not attempt this question.

Question 17 (a)

17 (a) GES stores client, project and finance details for every prototype engine project.
Identify which productivity software would be best suited to doing this.

.....
.....[1]

The question required candidates to identify productivity software best suited to storing client, project and finance details. A high proportion of good responses identified database or spreadsheet software. Others identified business systems like MIS, CRM and SOP or business software.

Question 17 (b)

(b) The CAM PCs used by the engineers need regular maintenance. The GES IT technician uses utility software during the maintenance.

Identify **two** different types of utility software that could be used during the maintenance of the CAM PCs. Justify your choices.

Utility Software 1

Justification

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.....
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.....

Utility Software 2

Justification

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.....

[6]

Candidates were required to identify software used during regular maintenance of the CAM PC's and to justify their choice. A high proportion of good responses identified two different types and made a reasonable justification of their choices. Others were able to identify and justify one type of utility software as shown on the unit specification (2.3) while some were only able to identify 1 or 2 correctly. Quite a few provided no response to this question.

Question 17 (c)

(c) One of the CAM PCs keeps unexpectedly rebooting.

Identify and describe **two** troubleshooting tools that could be used to locate the issue.

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2

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[4]

The question asked candidates to identify and describe two troubleshooting tools to locate an issue with the CAM PCs. A small number of well-prepared candidates offered good responses identifying two troubleshooting tools from the specification and gave sufficient description of how these tools worked to gain the full marks. Others did not clearly identify the tools or provided methods or procedures rather than trouble shooting tools. Some provided responses to a previous question (Jan 2018 Question 17b) about troubleshooting faults with steps to follow which gained them no marks.

Question 18 (b)

- (b)* The GES business is expanding with an increased number of clients. An IT consultant has recommended that cloud storage is used to archive completed engine design projects.

Using examples related to GES, explain the benefits and limitations of using cloud storage to archive completed engine design projects rather than updating their current hardware.

[10]

Generally well answered, with good ideas, this question was marked using a banded response mark scheme. Candidates were asked to explain the benefits and limitations to GES of using cloud storage rather than updating their current hardware. Good responses included detailed explanations on either side of the argument with subject specific terminology.

Others produced descriptions relating more to limitations or benefits. A few candidates identified only generic points in relation to cloud storage. Others did not attempt this question. A previous question paper (Jan 2019 Question 17) had provided a somewhat similar question about virtualisation which would have equipped candidates with some good arguments of the benefits and limitations of cloud storage.

Question 18 (c)

- (c) The main office, design building and manufacturing building are connected in a network using ethernet cable and hubs.

Identify the type of network.

.....
[1]

This was answered well in the main, with many candidates providing a LAN (Local Area Network). Others identified a WAN or MAN or mistook the question to be about network topology and provided responses like 'star' gaining zero marks.

Question 19 (a)

- 19 (a)** A weekly meeting is held with the managers, designers and engineers. The meeting is held in the design building as there are barriers to communication in the manufacturing building.

Identify and describe **two** possible barriers to communication in the manufacturing building.

1

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2

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[4]

Candidates were asked to identify and describe two possible barriers to communication to meetings in the manufacturing building. A few good responses identified noise and distractions as the barriers and the machinery and movement in the manufacturing building as the descriptions. Others were able to identify one barrier and describe it but for some reason quite a few identified space as the second barrier. Some candidates identified this as technical question and provided responses relating to signal strength and teleconferences. Those candidates aware of the options provided in the specification answered well.

Question 19 (b)

- (b)** GES uses bespoke software during the design process. The bespoke software needs updating.

Identify the job role which would carry out this task.

.....

.....**[1]**

Many good responses were able to provide a job role of Software Developer, Software Programmer, IT Programmer or Programmer. Others thought it would be an IT Technician or a Software Engineer.

Question 20 (a)

20 (a)* GES need to maintain the confidentiality of their prototype engine designs. The current designs are stored on a physical server with the archived designs stored on the cloud.

Discuss the security measures that could be used to protect the engine designs stored on both the physical server and the cloud.

[10]

This question was marked using a banded response mark scheme. Candidates were asked to discuss the security measures that could be used to protect the engine designs on both the physical server and the cloud. Good responses included detailed explanations of both physical and digital security measures presenting either side of the argument with the use of subject specific terminology.

Others provided descriptions relating more to physical or digital security measures or both but not identifying which category they fell into. Very few responses identified only generic points. Recent past examination papers (Jun 2019 Question 17a and Jan 2019 Question 16b) had contained questions on physical and digital security measures which might account for the high number of Level 2 and Level 3 responses here.

Question 20 (b)

(b) Identify **two** direct threats to the security of GES client personal data held on a server in the main office.

1

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2

.....

[2]

Candidates were asked to identify two direct threats to the security of GES client personal data. Good responses correctly identified two direct threats using one or two words and a noun to identify it. Others wrote a sentence and did not clearly identify the threat. Candidates need to be aware that if the question says identify two, only the first two identified are marked.

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