Examiners' Report
Principal Examiner Feedback

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Pearson Edexcel International GCSE in Information & Communication Technology Paper 1 (4IT1_01)

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Introduction

The examination for this unit requires students to explore how current and emerging digital technologies impact on the lives of individuals, organisations and society. This is an untiered paper that has been specifically designed so that easier questions are more prevalent earlier in the paper, becoming progressively more difficult later in the paper. This paper has been designed to be accessible, so that candidates of all ability ranges will find questions that are both challenging and interesting throughout. Candidates will find that 'command words' are used consistently in the paper to indicate the type of response expected. It is hoped that candidates will demonstrate the knowledge, understanding and skills required to be confident users of ICT.

Successful candidates often provided more detailed responses, providing more than just simple statements, including examples and reasons where expansions or explanations were required.

In the extended questions, candidates must demonstrate a better understanding of the requirement to 'discuss' and 'justify'. Candidates should develop their use of subject-specific and technical language, and avoid giving generic responses, responding in the context of the question.

REPORT ON INDIVIDUAL QUESTIONS

Question 1

1(c) – Most responses included a correct type of network a computer can connect to, which was most commonly a personal area network/PAN, a wide area network/WAN and a virtual private network/VPN.

1(d) – Most correct responses included magnetic, optical or solid state storage media, or a specific example, such as hard disk, DVD or USB.

1(f) – Some responses included 4G masts that broadcast signals across the country but didn't always link this to a 4G-enabled device. Most commonly, responses stated that 4G provides internet access through a mobile network. However, this wasn't usually linked to a 4G router with a SIM card.

1(g) – Responses commonly included sight of 8 (as 1 byte is equal to 8 bits) and 1024, although 2 x 10243 x 8 was a common incorrect response. Some responses inaccurately included 1000 rather than 1024. 240 was also seen as a correct alternative to 10244.

1(h)(i) – Most responses recognised that a computer logged on to a sever is called a client.

1(h)(ii) – The most common response was to share resources over a network, although not all responses linked this to a benefit, such as reduced costs. Improved collaboration

was another benefit commonly included in responses, although this was not always justified for the second mark, such as explaining that users can share files.

1(h)(iii) – This question was well answered with descriptions of the effect of latency, bandwidth and signal interference the most common responses, often with a description of how it affects the speed of data transfer for the second mark.

1(h)(iv) – Many responses were awarded two marks in response to this question for a correct benefit, such as reduces e-waste and preserves natural resources, with a linked explanation, such as because it prevents devices ending up in landfill or there's less demand for new production.

Question 2

2(a) – Lots of responses were awarded all three marks for identifying the purpose of formatting, encryption and defragmentation. The most common incorrect response was not linking defragmentation to reordering data.

2(c) – There were not many correct responses to this question because responses did not relate to the context of the question, which required a reason why an operating system uses resource management when loading software. Some responses did pick up at least one mark for saying it's to ensure multiple programs can run at the same time, to allocate memory or to help the software load faster.

2(d) – The most common responses explained one of two advantages: it's free or it can be modified. However, the advantage of open-source software being free was more commonly explained with a linked justification, such as because there are no licensing costs.

2(e) – A lot of responses included part, or all, of 'zip it, block it, flag it.' This was not rewardable without sufficient explanation, such as don't share personal information, block friend requests from strangers or report malicious content. Candidates should read the wording of the question carefully, as generic responses to staying safe online, such as using strong passwords or two-factor authentication, did not directly answer the question, which focused on staying safe when using social networks.

2(g)(i) – Lots of responses gave one or two correct examples of data held in a tracking cookie. The most common correct responses focused on user activity, such as search history and purchase history, and user information, such as IP address, user preferences and location.

2(g)(ii) – This was another well-answered question with lots of responses correctly stating that tracking cookies store information about the user's interests or preferences and many responses adding a linked explanation, which was most commonly that the information shown is customised to, or personalised for, the user.

Question 3

3(a) – Many responses simply stated that the files can be edited by anyone. However, this is a definition of read/write access, rather than a correct drawback. The most common correct responses were related to the potential for the theft of, or accidental/malicious deletion of, data.

3(b) – Most responses were awarded at least one mark for describing that firewalls block unauthorised access to a network and many responses were awarded a second mark for describing how it does this. For example, common responses included a description of how firewalls monitor or filter network traffic.

3e(ii) – Most responses were only awarded one mark for referencing part of a correct explanation. Most commonly, this was correctly stating a drawback, such as the information is less reliable, it could be biased or inaccurate. However, not many responses included the reason for this. The most common correct explanation was because it can be modified by anyone. Other responses were awarded a mark for stating that there is a risk of copyright issues but didn't explain this is because Peta may be using someone else's creative work without permission or acknowledgement.

3(e)(iii) – Responses covered a wide variety of aspects of VLEs and most responses were awarded marks for correctly identifying features of a VLE that help students learn, such as forums and pre-recorded content. However, fewer responses were awarded marks for linked descriptions of how the identified feature helps students learn, such as to communicate with teachers or other students and to allow students to learn at their own pace or revisit content.

3(e)(iv) – This question was not answered well, as a lot of responses referred to avoiding copyright, which is not in scope of the question. Some responses did, however, state to avoid plagiarism, which is a correct reason for paraphrasing information. Only a minority of   responses included a linked explanation and understanding of 3.9.6 in the specification is an area for improvement for most candidates.

3(e)(v) – Many responses did include a correct impact, which most commonly was reduced employment opportunities. Most of these responses also included a linked explanation, which was commonly because of fewer opportunities to improve knowledge, education and skills. However, some candidates simply repeated the question by saying because of a lack of access to information, which was not creditworthy.

3(f)(i) – Most candidates were awarded two marks for correctly identifying two output devices, most commonly speakers and a screen. However, some candidates responded with input devices, such as a microphone.

3(f)(ii) – Most candidates provided a benefit of increasing bandwidth, which most commonly was faster data transfer, although only a minority of candidates gave a linked

explanation for a second mark.

3(g) – Although lots of candidates gave improved conductivity as a response to this question, this was incorrect. Only a minority of candidates provided a linked explanation, such as the signal is improved because there's less interference.

Question 4

4(a) – Some candidates gave two correct benefits in the context of the question, which most commonly were increasing the audience and sales. However, some candidates did not respond in the context of the question and gave benefits of operating online, such as lower operating costs.

4(b)(i) – This question was well answered with common correct benefits including lower costs and more data storage. However, fewer candidates also provided a linked explanation to their chosen benefit.

4(b)(ii) – Some candidates answered in the context of the question, which was when editing images. Common benefits included faster image editing and better performance, which some candidates also linked to a correct explanation, which commonly included less need for virtual memory and being able to work on different image files at the same time.

4(c) – Most candidates were awarded two marks for this question. There were a wide variety of correct answers provided, which commonly included cropping, image adjustments and removing unwanted elements.

4(d) – The correct reason identified by candidates was predominantly that copyright law operates differently in different countries, although copyright law being difficult to enforce and regularly ignored were also mentioned by a very small number of candidates. Candidates did not consider copyright legislation in relation to generative AI, which is an interesting aspect of 3.8.2 in the specification content.

4(e) – Most candidates provided advantages and disadvantages to customers of some of the four aspects of digital payment systems included in the question. Although many responses covered a range of points, not all points were supported by evidence. Points relating to advantages were better supported with evidence of examples related to the question. Responses were generally clear and focused, although many lacked organisation.

Question 5

5(a) – Most candidates gave reducing file sizes, which is a correct way to optimise website content to reduce the bandwidth requirements of users and many candidates provided a linked description, which most commonly was by compressing images (or video). Not many of the other responses in the mark scheme were given by candidates

except for the occasional response that gave reducing video resolutions, although only a minority of candidates described that is to lower the number of pixels.

5(b) – There were a lot of correct responses describing how streaming differs from downloading music. Responses included a linked description covering an aspect of streamed music, most commonly that it is played directed from the internet, and how it differs from downloaded music, most commonly that it is saved to the device's hard drive.

5(c) – There were not many responses that explained a correct benefit to a company of targeted advertising, which were awarded two marks. Understanding of 4.2.4 in the specification is an area for improvement for many candidates.

5(d) – Some candidates provided a linked description, commonly describing that a transaction log enables data recovery by keeping track of changes to data. However, most responses suggested that candidates did not know how transaction logs improve data security.

5(e) – Most candidates were awarded at least one mark, and many gained two marks, for responses that provided correct benefits of hosted software, which commonly included automatic updates, automatic backups and improved collaboration.

5(f) – Most candidates were rewarded with some marks for one, or two, correct descriptions, which covered aspects of network operating systems, including verifying users, controlling access to network resources and managing user accounts. However, some candidates did not provide linked descriptions and therefore did not gain all the marks available.

5(g) – The question required candidates to justify the statement and some candidates provided a coherent response that included the effective use of a range of evidence in support of the statement. Evidence, which commonly included aspects of entertainment, socialising and learning, was often clearly explained, which contributed to a focused response. Candidates did not have to provide any arguments against the statement, although they were rewarded for any counter arguments, and could achieve all 8 marks available through a well-argued and evidenced defense of the statement.

However, some responses only provided superficial responses with a few points in support of the statement that lacked evidence of how specific features, such as connectivity, storage and applications, impact positively on how people use their free time through specific examples, such as leisure activities like streaming, gaming and fitness.

Some responses only provided generic points without sufficient supporting evidence to build an argument in support of the statement, which lacked the detailed evidence and focus to meet the Level 3 descriptors.

Paper Summary
Based on their performance on this paper, students are offered the following advice:
- Expand and explain answers using examples and reasons, especially where more than a simple statement is requested.
- Where a context or scenario is provided, respond with the context of the question in mind.
- Read and interpret the question prompt to focus on the specific requirements and provide more relevant responses that address the critical aspects of the question.
- When required to give one other example/reason, ensure the response is discrete from the given example/reason.