

Examiners' Report June 2015

GCSE ICT 5IT01 01

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Introduction

This is the seventh time that candidates have sat examinations for this unit, which requires them 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 on. 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 are introduced to a scenario, within which they can contextualise their responses. Additionally, 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 savvy users of ICT.

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

In the extended questions, candidates demonstrated a better understanding of the requirement to analyse, evaluate, make reasoned judgements and present conclusions. Candidates should develop their use of subject specific language and should make better use of the Technology Update document, published every Spring, to clarify what technology they are expected to learn about.

Question 1 (b)

Most candidates gained one mark for this question, usually for stating 'Eye strain'.

Question 1 (c) (i)

Most candidates gained the mark for this question, usually for stating 'Processor', or 'Storage', or 'Memory'.

(c) Sarah uses her computer to edit a photograph.

(i) She upgrades the graphics card to improve the screen resolution of her computer.

List **two other** features that could be upgraded to make it easier to edit photographs.

(2)

- 1 Bigger memory
- 2 Bigger Ram



ResultsPlus Examiner Comments

This response gained 1 mark because 'memory' and 'RAM' are the same thing and, therefore, can only be awarded once.



ResultsPlus Examiner Tip

When more than one response is required, ensure your responses are discrete from each other.

Question 1 (d)

Most candidates gained all three marks for this question, usually for stating 'USB' or 'Firewire'.

Some candidates did not gain marks as they only made reference to cable, or identified wireless connections, such as Bluetooth and WiFi.

(d) List **three** wired methods of connecting a peripheral device to a computer.

(3)

- 1 USB
- 2 PS/2
- 3 E-Sara



ResultsPlus Examiner Comments

This response gained all three marks. The response demonstrate good knowledge of connectivity.

Question 1 (e)

Most candidates gained the mark for this question. Usually, this was for referencing limited storage locally or having no remote access. However, candidates did not gain marks when suggesting that local storage wasn't backed up and there were also many instances of candidates suggesting a loss of data without relating it to the damage/loss of the device.

Question 1 (f) (i)

Most candidates gained the mark for this question, usually for stating that a router provides access to the internet, showing knowledge of modern routers in a home network situation. However, there were instances of candidates stating a router provided WiFi – indicating lack of differentiation between Internet and WiFi.

Very few candidates mentioned shared connection or directing network traffic.

Question 1 (f) (ii)

Most candidates gained both marks for this question, usually for stating a mix of numbers and letters, including symbols, or including a mix of cases. Some candidates indicated a password should be of a long length without being specific.

(ii) Sarah uses a password to access her router.

Give **two** features of a strong password.

(2)

1 lower and uppercase letters

2 Special characters eg. !?*-



ResultsPlus
Examiner Comments

An exemplary response that gains full marks.

(ii) Sarah uses a password to access her router.

Give **two** features of a strong password.

(2)

1 Other people can't get on the vifi to use her internet data

2 Less chance of hackers stealing the I.P code.



ResultsPlus
Examiner Comments

Misconceptions arose with candidates relating their response to an explanation of the need for a strong password rather than the construction of a strong password, as shown in this response that did not gain marks.

Question 2 (a)

Most candidates did not gain marks for this question. Where marks were gained, candidates referenced sharing the calendar with others and accessing it anywhere. However, where candidates confused a local calendar with a paper based calendar, the responses related to there being a lot of room, easy to edit and being sent notifications of events.

2 (a) Sarah uses an online calendar.

List **three** advantages to Sarah of using an online calendar, rather than a local one.

(3)

- 1 Updated automatically
- 2 More reliable
- 3 Easier



ResultsPlus
Examiner Comments

This response was too general to gain marks.

Question 2 (c) (i)

Most candidates failed to gain both marks for this question. While many responses related to the narrowing of the results and the relevance of the results shown, few mentioned how a match was achieved.

(c) Sarah uses a keyword search to find an image file.

(i) Explain how the choice of appropriate keywords affects the results of the search.

(2)

If she uses specific keywords which are related to the image she wants to find it will help to narrow down the results she receives and ensure that they are related to what she wants



ResultsPlus
Examiner Comments

This response gained full marks.

Question 2 (c) (ii)

Most candidates gained at least one mark for this question. The most common correct responses related to size of the image/file or file type. However, there was a high incidence of candidates relating items to date/time, which was already given in the question.

Question 2 (e)

Most candidates gained the mark for this question. Candidates most often referred to backup and online storage, often using proprietary names such as iCloud. A few candidates referenced hosted applications, again often using proprietary names such as Google Docs. However, candidates often referred to sharing of data which is not unique to cloud computing.

Sarah uses cloud computing.

(e) Give **one** example of a service provided by cloud computing.

An example of cloud computing is Apples Icloud. ✓ (1)



ResultsPlus
Examiner Comments

A typical response that gained the mark.

Question 2 (f)

When candidates gained a mark in this section, it was usually for correctly identifying that there were fewer resources used. For example, indicating that there is no need to print and therefore less paper is used. Marks were also gained for referring to pollution issues related to the use of cloud computing. Candidates frequently referred to the increased use of electricity on its own, without identifying the impact of this on the environment, as required by the question.

(f) Give **two** ways in which cloud computing affects the environment.

(2)

1. Makes computing more versatile as most cloud storages can be accessed from different devices.
 2. Can allow for multiple users to work on the same project from different devices -
- from my own knowledge' (Total for Question 2 = 14 marks)
this service is available on the google drive.



ResultsPlus
Examiner Comments

Some responses did not refer to the environment at all, as in this example that did not gain marks.

Question 3 (a) (ii)

Most candidates did not gain marks for this question. There were frequently explanations about why encryption was needed or what happens if data is not encrypted. When questions ask 'how', a response that includes a process is usually required. Some candidates incorrectly referred to a 'password', rather than a 'key' or 'code' as being necessary to decrypt encoded data.

(ii) Describe how encryption keeps data secure.

(2)

It scrambles it up, so it can only be unscrambled using the encryption key.



ResultsPlus
Examiner Comments

A typical response that gained both marks.

(ii) Describe how encryption keeps data secure.

(2)

It jumbles the letters and figures to make it unrecognisable, to any users especially those with unauthorised access.



ResultsPlus
Examiner Comments

Where responses only gained one mark, it was usually for not stating that a 'key' is required to decrypt the encoded data, as exemplified by this response, which gained one mark for 'jumbles the letters', relating to 'scrambling the data'.

Question 3 (b)

Most candidates gained at least one mark for this question. Common errors included stating 'hacked' without stating what could be hacked, or simply stating 'Sarah can be hacked' rather than her device/information/data. When candidates referenced what was being hacked, they then failed to mention the consequences of this.

A number of responses incorrectly referred to the increased cost to the WiFi provider of having more users on the network, rather than referring to the risk to the user, as indicated in the question. Other responses incorrectly identified downloading viruses as a risk to the user.

(b) Sarah uses an unsecured WiFi network to check her email.

Describe **one** risk of using an unsecured WiFi network.

(2)

The network could have a virus which could be then spread to her phone causing damage to it.



ResultsPlus
Examiner Comments

Responses such as this did not gain marks, as viruses can be spread on both secured and unsecured networks.

Question 3 (d) (i)

Most candidates gained two marks for this question. Responses often gained marks when they referred to the risk of the link to the data, but few responses referred to the reason for updating the security software (as required by the question), often only referring to the purpose of security software in general.

(d) Sarah receives an email, which contains a hyperlink.

2. updates website
3. blocks pop-ups or virus downloading
4. computer normal.

(i) Before she follows the hyperlink, Sarah updates her security software.
Explain why she does this.

(4)

The updated security software increases resistance to a computer virus, and is up to date with the prevention of new viruses. Sarah does not know the website, so she does not know if it is safe to go on or not. When she goes on the website the new security system will stop harmful pop-ups and will prevent a virus downloading itself onto the computer. The computer is therefore safe, and the web hyperlink was okay to follow.



ResultsPlus
Examiner Comments

An exemplary response that gained all four marks.

(d) Sarah receives an email, which contains a hyperlink.

- (i) Before she follows the hyperlink, Sarah updates her security software.
Explain why she does this.

(4)

18 She does not know who sent the email, the hyperlink could be a trojan horse so following it, unprotected, could lead to a virus or could lead to someone stealing her private information, so updating her software reduces this risk.



ResultsPlus
Examiner Comments

This response exemplifies those that did not refer to the reason for updating security software.



ResultsPlus
Examiner Tip

Candidates must ensure their responses cover the full requirements of the question. This question was about updating, not simply 'installing' security software.

Question 3 (d) (ii)

Most candidates did not gain both marks for this question. Many responses referenced firewalls and anti-virus software. However, there were a number of candidates that missed the 'anti' part of the answer. Many candidates gave proprietary names, when the question specifically required two 'types' of security software, rather than 'examples' of security software.

Question 3 (e) (i)

Many responses failed to gain marks for this question. Responses often incorrectly stated that streaming 'uses lots of Internet/WiFi' or confused bandwidth with latency. Some candidates incorrectly referred to the need for the train company to limit bandwidth to reduce the use of illegal/unacceptable videos, or to stop the noise from playing the video impacting on other passengers.

(i) Explain why the WiFi network provider blocks video streaming.

passengers were faced
- As less data
available
for them
(3)

As lots of data is needed to load the video,
less data would be available for other passengers.
This would therefore reduce the user browsing
experience of the other passengers as it would take longer
for video to load.



ResultsPlus
Examiner Comments

This response gained all three marks.

Question 3 (e) (ii)

Most candidates gained the mark for this question, with most candidates referring to 3G/4G. Some candidates incorrectly referred to 'hotspots' which use WiFi or Bluetooth or 'Bluetooth' on its own, which wouldn't be suitable for the purpose described.

Question 4 (a) (ii)

Most candidates gained one mark for this question. The majority of responses identified that the location was available/tracked but many responses then restated the question, saying that this was a privacy concern, rather than identifying the specific concern that could arise.

(ii) Explain how the use of GPS data could impact on the privacy of individuals.

(2)

GPS data could effect peoples privacy because
it shows there location and other people can
see this and nasty people could try and find her.
She also might not want her location to be known.



ResultsPlus
Examiner Comments

An example of a response that gained both marks.

Question 4 (b)

Most candidates did not gain marks for this question, which required them to describe how users would be able to download the image faster.

(b) Sarah compresses the image to reduce its file size.

Describe how this improves a smartphone user's experience of Sarah's blog.

When on the blog the photo will load faster⁽²⁾
due to it ~~be~~ having to send/receive less data.
It uses less bandwidth so makes it faster.



ResultsPlus
Examiner Comments

A typical response that gained both marks.

Question 4 (c)

Most candidates did not gain full marks. Some candidates identified that friends seeing the 'like' on the visitor's feed could then visit the blog, or view the photograph themselves. A number of candidates did reference the 'viral' nature of 'likes'. However, some candidates did little more than rephrase the question. Few candidates referred to the influence of friends.

(c) Visitors to Sarah's blog can 'like' a photograph.

This is a social networking feature.

Describe how this feature helps Sarah to promote her photographs.

She is able to tell what type of photographs⁽²⁾
are more popular with the people who read her
blog. This can help her know how to adapt it to
what is popular.



ResultsPlus
Examiner Comments

This response did not refer to how 'likes' help Sarah promote photographs.



ResultsPlus
Examiner Tip

When questions ask 'how', a process is often required in the response.

Question 4 (d)

Many candidates gained one mark for referring to cookies' purpose of gathering or using information/data. Although some candidates indicated that people thought this was a breach of privacy, very few included how cookies were used by companies/organisations. A number of candidates incorrectly referenced security concerns rather than privacy concerns.

(d) Sarah's blog uses cookies.

In 2012, a new law required websites to obtain 'informed consent' from visitors before using cookies.

Explain why this law was required.

Because other wise ^{people} ~~websites~~ ⁽³⁾ could get cookies from websites and not know it and ~~would to keep their data~~ have data they want to keep private seen and used by the websites for targeted advertising and it would be breaching their persons privacy.



ResultsPlus
Examiner Comments

A response typical of those that gained all three marks.

(d) Sarah's blog uses cookies.

In 2012, a new law required websites to obtain 'informed consent' from visitors before using cookies.

Explain why this law was required.

(3)

Because cookies store your website preferences on your digital device so that when you go back they can show you targeted information and adverts. This is an invasion of an individuals privacy as well as their digital device



ResultsPlus
Examiner Comments

This response also gained all three marks.

Question 4 (e)

Few candidates gained marks for this question. Where marks were gained, the responses often related to updates/recent content.

(e) Sarah's blog has an RSS feed.

Describe what service the RSS feed provides to the users of Sarah's blog.

(2)

An The RSS feed for Sarah's blog updates when new content is added to the blog. This makes it easy for the user's of Sarah's blog to be informed when new things have been added to the blog.



ResultsPlus
Examiner Comments

An example of a response that gained both marks.

Question 4 (f)

Most candidates gained three of the six marks available for this question. Many responses referenced inappropriate comments and the rise of bullying through digital communication as well as freedom of speech and copyright. Many responses referred to the issues, but did not discuss both challenges and responsibilities, instead referring to the advantages and disadvantages of digital communication.

*f) "Blogging gives you the right to say any thing, any time, in any way"

(Source: <http://www.blogherald.com/2007/03/27/blogging-freedom-of-speech-can-you-really-say-whatever-you-want/>)

Discuss the legal, ethical and moral responsibilities and challenges associated with digital communication.

(6)

Although all people deserve the freedom of speech and have the right to express themselves this needs to be investigated when posting things on the internet. With new advances in social media, more and more people are online including a great deal of children. Posting inappropriate images or writing about explicit things can now be seen by an ever increasing younger audience and the implications are huge. As well as the benefits of using social media a new type of abuse/bullying has arisen. Cyber-bullying now is one of the largest platforms and ways of abuse especially to (again) a younger, more influential generation. The posting of images which may show an individual in a compromising position has catastrophic effects on the person and although it may be deleted at one point it will never leave "cyber space". Everything that is posted online even if it gets deleted or taken off can always be accessed. So people who post male comments or abusive messages need to think about their jobs and opportunities that could be removed if their history is accessed. * Cyber bullying is now a crime due to the huge deal of individuals it affects.

(Total for Question 4 = 18 marks)



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Examiner Comments

An example of a response that gained all six marks.

Question 5 (a)

Few candidates gained marks for this question, as many did not state the name of the law, often only stating 'Copyright', rather than 'Copyright Act' (which would have been enough to gain the mark, as the full name and year was not required). Many candidates incorrectly referred to the Data Protection Act.

Question 5 (b)

Most candidates gained at least one mark for this question, often for referring to the 'wider audience' afforded by the Internet, the 'reduction in overheads' or the '24/7/365' nature of online selling. Where candidates failed to gain marks, responses often related to the benefits to Sarah's customers rather than Sarah herself.

Question 5 (c) (i)

Few candidates gained the mark for this question, with incorrect responses usually referring to money going straight into Sarah's account, or there being no need to see each other's bank details.

(c) Customers pay using a third-party payment service.

Payments are secure.

(i) State **one other** benefit to **Sarah** of accepting payments using a third-party payment service.

(1)

Money goes straight into bank account, no
fuss. Sarah doesn't have to deal with ^{payments} credit



ResultsPlus Examiner Comments

Incorrect responses such as this, which referred to money going straight into Sarah's account, did not gain marks.

(c) Customers pay using a third-party payment service.

Payments are secure.

(i) State **one other** benefit to **Sarah** of accepting payments using a third-party payment service.

(1)

It means she does not have to give away her personal
bank details.



ResultsPlus Examiner Comments

This response does not gain the mark. Giving bank details to customers is not a risk to Sarah; therefore, not doing so is not a benefit.

Question 5 (c) (ii)

Most candidates did not gain all three marks for this question. Responses often referred to the 'padlock' and 'https'. However, many responses did not gain marks as they did not include the 's' in 'https'. There were also some incorrect references to captcha tests and online bank security.

- (ii) List **three** ways that web browsers display to customers that payments are secure.

(3)

- 1 HTTPS shows in the search bar
- 2 Search bar turns green
- 3 Padlock icon appears



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Examiner Comments

A typical response that gained all three marks.

Question 5 (d)

Most candidates did not gain marks for this question. Most responses stated that some information was stored, but many did not gain any further marks. Candidates who did perform well on this question were able to identify that Sarah could use this data to match photographs to similar pages and information visited, with few referring this to cookies. Quite a number of incorrect responses related to a customer's search, a user filtering the images that they wanted, or Sarah organising links on her page/site and the impact this had on her sales.

- (d) Sarah wants customers to see photographs that are likely to be relevant to them.

Describe how transactional data can be used to achieve this.

(4)

She can view customers cookies and any keywords that match, or are similar to any key words tagged in her photographs, those are the photographs that can be displayed and advertised to that customer.



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Examiner Comments

This response gained all four marks.

Question 5 (e)

Most candidates gained two marks for this question. A good range of indicative content was seen, mainly around portability, screen sizes and quality of resolution, processing power, storage capacity, reliability of connectivity and power supply. However, although candidates often referred to advantages and disadvantages of desktop computers on their own and in relation to the other devices, many did not discuss this in the context of Sarah, as required. This limited the level of response in terms of content/discussion.

*(e) Sarah bought a desktop computer.

Discuss the advantages and disadvantages to Sarah of selecting a desktop computer rather than a laptop, smartphone or tablet computer.

(6)

Desktop computers are good as the storage capacity is significantly bigger than those used on laptops, smartphones etc. This is good for Sarah as she needs a lot of storage space to store her images. Also, ~~her~~ her laptop computer has a very strong internet connection because the computer is directly connected using ethernet cables, whereas smartphones, for example, are wirelessly connected which is less secure and ~~has~~ more chance of low bandwidth and slow latency. Sarah needs a strong internet connection to access her blog. Desktop computers also have space to connect many peripherals - for example a mouse making it easier to edit photographs precisely. She could also transfer her photographs directly from her camera using a USB stick.

However, desktop computers are restricted and can only be used in one location, whereas laptop, smartphones or a tablet computer can be used on the move, which is ideal for a photographer. Also, smartphones are multi-functional and Sarah could even take her photographs on her smartphone and upload them to her blog, straight away using a WiFi connection or 3G. Smartphones also have GPS, which could be useful for Sarah when she posts pictures on her blog because she can geotag them.

(Total for Question 5 = 18 marks)



ResultsPlus
Examiner Comments

An exemplary response that includes a good range of indicative content and clearly relates it to Sarah's situation.

*(e) Sarah bought a desktop computer.

Discuss the advantages and disadvantages to Sarah of selecting a desktop computer rather than a laptop, smartphone or tablet computer.

(6)

Sarah works both in her studio and on the go. A disadvantage of having a desktop is that it is not very portable. However it often has a bigger hard drive, more RAM and a bigger resolution. These features make it easier to store and edit the images she takes. An advantage of the laptop is that she can use it anywhere and it is much more portable. Laptops often don't have as high a resolution as a desktop and their media support is often limited. They are about equal as far as network connectivity but for hosting her own blog, the faster processor would be an advantage. Overall I believe that for Sarah a desktop was a good idea since photo editing and sharing are a big part of her job. The faster processor and higher resolution would make this easier. The only disadvantage is the portability but she can work predominantly from her studio. When she is out she will mainly be using her camera and smart phone. As far as her files are concerned, she can use cloud storage but I think that a desktop would be better for editing.



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Examiner Comments

Another exemplary response that gained all six marks.

Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

- Continue to develop the good practice of expanding and explaining answers using examples and reasons, where more than a simple statement or list is required.
- Respond with the context of the question in mind.
- Do not repeat responses when more than one example/reason is required.
- Identify key words and command words in the question to ensure responses reflect what the question asks.
- Practise a range of extended questions, not just balanced arguments.
- Allocate time to plan the two six-mark extended questions.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>

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