

# Examiners' Report Principal Examiner Feedback

Summer 2019

Pearson Edexcel International GCSE in Information and Communication Technology (4IT1)
Paper 01R

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#### 1906 GQ

### **Paper Introduction**

This is the first 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 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 should note that a conclusion is not always required.

Candidates should develop their use of subject specific language and avoid giving generic responses, responding in the context of the question.

#### 4IT1\_01R\_Q01a

#### **Question Introduction**

Most candidates gained the first mark, but few gained the second mark, with many repeating the question and stating that the phone turned off. Some responses failed to gain a mark as they referred to the movement dislodging the battery or moving other components within the smartphone.

#### **Examiner Comment**

The first mark was awarded for reference to a sensor. (The fact that it is unlikely to be a pressure sensor was ignored.)

There is enough in the rest of the response to suggest that a process occurs, so the second mark was also awarded.

### **Clip Instruction**

Answer ALL questions.

Write your answers in the spaces provided.

Some questions must be answered with a cross in a box 区. If you change your mind about an answer, put a line through the box 爰 and then mark your new answer with a cross 区.



(Source: © Pearson Asset Library)

- 1 Kiki buys a smartphone.
  - (a) The smartphone turns itself off when it is dropped.

    Describe how the smartphone does this.

The smartphone has a pressure sensor that built into the phone. Therefore, when it hits the ground, the sensor sents sends a signal to the phone's processor informing it that there was a large pressure on the phone. The processor then sends a signal to turn off the phone.

### 4IT1\_01R\_Q01bi

### **Question Introduction**

Responses were often vague referring to limited range, rather than lack of mobility. Reference to trip hazards was a common source of marks, although many candidates referred to mess, which was not enough.

#### **Examiner Comment**

Marks gained from mark point 3 and mark point 1.

### **Clip Instruction**

(b) S	Sm	martphones can be connected using wired or wireless methods.
(	(i)	Give two disadvantages to Kiki of using a wired method to connect to the smartphone.
		(2)
1 Mo	ve	e expensive to set up wired connections due to requirements of
wires	5	A
2 Ma	ц.	, be difficult for kilki to move locations on its less portable

### 4IT1\_01R\_Q01bii

### **Question Introduction**

Many candidates' responses were limited to mark points 1-5. Marks were commonly awarded for responses relating to 'slower', 'lower bandwidth' and 'less secure'.

#### **Examiner Comment**

Two marks awarded from mark point 5 and mark point 1 respectively.

MUNICOUNCE.	(ii) Give <b>two</b> disadvantages to Kiki of using a <b>wireless</b> method to connect to the smartphone.	
XXX		(2)
WWWWWW	1. It can easily be intercepted by unauthorised access	
conconconconco	2 Wireless connections are slawer than wired connections	
2000		

### 4IT1\_01R\_Q01d

#### **Question Introduction**

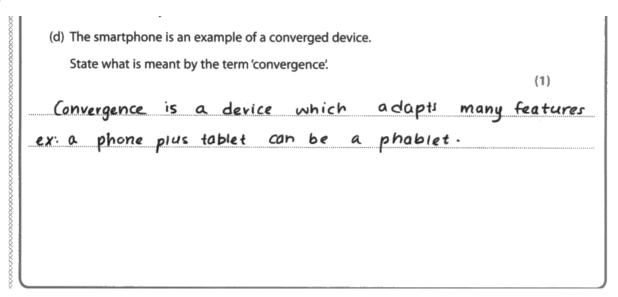
Many candidates failed to gain marks as they used 'design' instead of 'features'/'functionality'. Many responses referred incorrectly to multi-functionality and others to size and portability.

#### **Examiner Comment**

In this response 'adopts many features' is not enough by itself, but the example helps gain the mark.

### **Examiner Tip**

It is often useful to provide an example, where appropriate.



### 4IT1\_01R\_Q01e

### **Question Introduction**

Many responses gained both marks.

#### **Examiner Comment**

The first mark was awarded for the mention of 'cycle', but 'per second' is not mentioned for the second mark.

### **Clip Instruction**

(e) The smartphone has a 4 GHz CPU.
Describe how the speed of the processor is measured.
(2)
The speed of the processor is measured in sign herts which is
the time a device takes to process data. This The speed of the
processor depends on the clockcycle which is 2.3 GHz per cycle.
•

### 4IT1\_01R\_Q01f

#### **Question Introduction**

Many responses gained both marks for mentioning defragmentation and compression.

#### **Examiner Comment**

The first part of the response gains the mark from mark point 7.

The second part of the response would not have been enough to gain a mark from mark point 7.

(f) The smartphone uses utility software.	
State <b>two</b> uses for utility software.	(2)
Don't have loved by a	(2)
1 Downloading arrivers necessary vor the devices	
2 keeping drives up to date on the device.	
1 Downloading drivers necessary for the devices 2 keeping drives up to date on the device.	

### 4IT1\_01R\_Q01g

### **Question Introduction**

Many gained a mark for 'limited storage', but did not expand with 'more expensive'.

### **Examiner Comment**

The first mark is gained for 'very expensi[v]e', but no mark is awarded for the part of the response relating to manufacturing.

(g) Explain <b>one</b> drawback of using solid state storage.	(2)
they are very expensize to buy is harder to make and wanufattur	as II
·	

### 4IT1\_01R\_Q01i

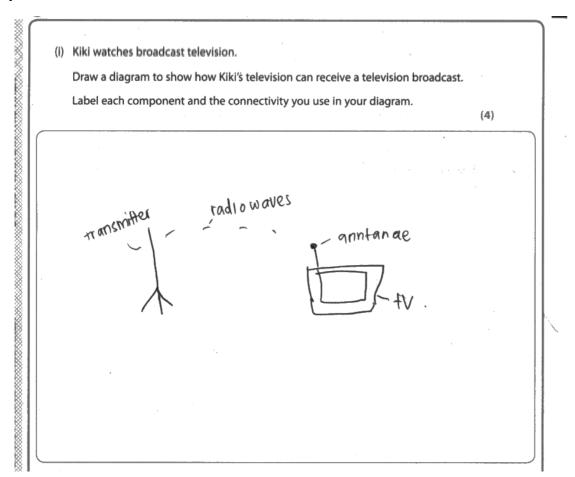
### **Question Introduction**

Diagrams were not well labeled. Few candidates showed a transmitter from the broadcaster or labeled the types of connectivity.

Many responses related to satellite television rather than broadcast television.

#### **Examiner Comment**

The fourth mark was not awarded, as no connectivity was labelled for the connection between the antenna and the television.



### 4IT1\_01R\_Q01j

### **Question Introduction**

Many responses did not mention electromagnetic signals. Common incorrect responses related to data traveling long distances or objects.

Marks were often gained for mention of a reduction in video and audio quality.

### **Examiner Comment**

Many responses, such as this one, repeated the Q.

The reference to the quality of the screen display was not enough for a mark from mark point 3.

7 1-0	T.	nterforence <del>orferesor</del> es		,	181970	(2)
so H	would	affect +	le sic	3201	of The 1	V
so all	eds to	broad c	ast and	d the	quality (	of the
screen di					, J	
,,			(	Total for (	Question 1 = 2	1 marks)

#### 4IT1\_01R\_Q02a

### **Question Introduction**

Marks were often gained for stating connecting a LAN to a WAN. Candidates who stated connect 'two networks' often did not state 'two **types** of networks'.

#### **Examiner Comment**

Two clear marks, as the response refers to 'connecting two types of networks'.

### **Clip Instruction**

2 Zara uses her tablet computer to watch TV online.	
(a) Describe the function of a gateway.	
(2)	
A gakway is used to connect two types of networks	
togeather. Gakway can be used to connect network to the inkrnet	
	-

### 4IT1\_01R\_Q02b

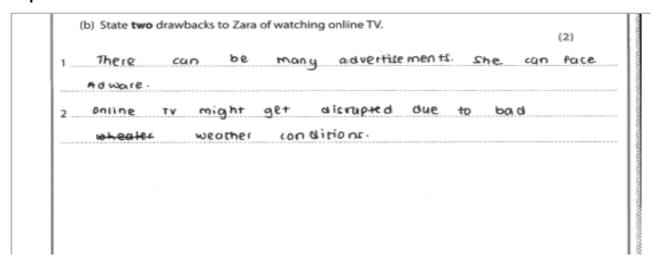
#### **Question Introduction**

Many responses were limited to one mark for reference to 'buffer'.

Many did not state 'requires Internet connection'.

#### **Examiner Comment**

- 1) Not relevant
- 2) Not enough to gain a mark for reference to interference.



### 4IT1\_01R\_Q02c

#### **Question Introduction**

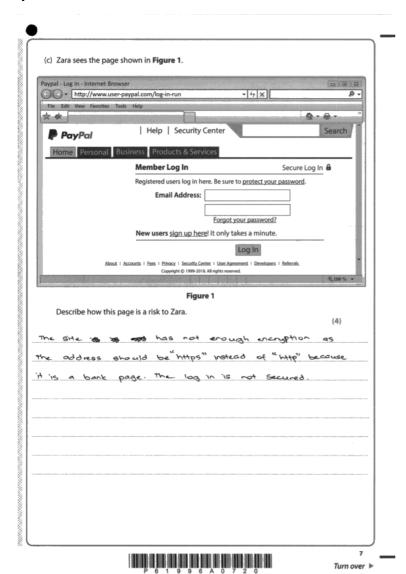
Many responses related to generic points on how this page is a risk. Some responses referred to how the ways in which people behave Online can lead to cyberbullying, hacking, and other unacceptable activities.

Many candidates' responses referred to the fact that it is a phishing site.

Candidates discussed that it does not have padlock or 'https', thus it is not a secure site and will use the information for fraudulent purposes by criminals to take her bank details etc.

#### **Examiner Comment**

A typical response that gained two marks.



### 4IT1\_01R\_Q02d

### **Question Introduction**

Many candidates did not use the correct technical terminology such as 'lag'. Answers often included vague reference to connectivity issues, interference and quality of the image because of a larger screen. Bandwidth was sometimes mentioned but related simply to the tablet or television and not other devices on the network. Answers relating to the spread of viruses and hackers were common incorrect responses.

#### **Examiner Comment**

Reference to 'interference' was not enough to award the mark for 'lag'.

(c	d) Give <b>two</b> drawb	acks to Zara o	connecting her ta	blet comp	uter to her	television.	(2)
1	Both of		le with		nged -	te	
2	There	carl	issamininininssamanin <del>im</del> aassiijini	e cec	uan o	ic INK/	
	he/	pblet	computer	21	in c	nothe	

### 4IT1\_01R\_Q02e

### **Question Introduction**

Responses typically gained two marks. Candidates who failed to gain marks usually described what a PIN was rather than how it works.

#### **Examiner Comment**

The first mark was given as we can infer the PIN is stored (in the database)

The second mark was given as 'matches' implies comparison.

The third mark was given as the outcome of the comparison is in the response.

(e) Zara uses a PIN to unlock her tablet computer.	
Describe how a PIN system works.	(3)
The user enters the PIN personal identification nu	mber The
tablets OS will run the PIN against 1 its database which a	ental contains
the correct PIN. If the value is wrong the entry is ton	- denied
and if it matches the accenting is gramed	

### 4IT1\_01R\_Q02f

### **Question Introduction**

Responses were often limited to 'internet connection is needed' and did not provide the expansion 'as it is stored on the cloud' for the second mark.

Some candidates did mention the effect of bandwidth or the reduced features.

#### **Examiner Comment**

A common misconception.

### **Examiner Tip**

Provide reasons for responses to 'explain' questions.

(f) Explain <b>one</b> disadvantage of using hosted applications.	(2)
it stow using hosted applications are much more stowe	rapps
rother than others.	······································
	***************************************

### 4IT1\_01R\_Q02g

### **Question Introduction**

Responses often gained one mark, failing to get a second, linked mark. Many answers referred to storage space but often did not provide an expansion that explains that this limits the space available for other applications / files.

#### **Examiner Comment**

The first mark was awarded for 'not updated' and the second for 'unless user does it'.

						,	. ,		(2	,
# 1	9	usually	not	updated	a10	d very	1 dd	version	. Jn	141110000000000000
order	t	for	the	user	ф	USC	them	the	need	b
update		the	app	where	7	لاأس	take	storege	and	19999944444441999
the	#	# blet	ווע	have	less	storag	ट व्या	for an	Mung	e)s-
						(Tot	al for Qu	<b>estion 2</b> = 1	7 marks	3)

### 4IT1\_01R\_Q03bi

### **Question Introduction**

When responses gained a mark for reference to line of sight, they rarely went on to epand and provide a linked point referencing moving when exercising. Candidates should ensure they provide an expansion to these types of open questions.

### **Examiner Comment**

This response gains both marks as it applies knowledge to the context of the question.

	_	- 510									
(b)	Th	e health r	nonitor us	ses Wi-F	i Direct	to trans	fer data to	the sma	rtwatch		
	(i)		not a cor		xplain w	hy Wi-F	Direct is a	better c	hoice th	nan	
											(2)
As	•	the	objec	i t	s ì	и	Moven	eat	, îv	fraved	l wigh
							stab				
one		direc	lion	tow	avd s	a	Sens	٥ <b>٧</b> ٠	wisi	Dire	ct is
	1	-11-	1 .				. 1.	1		· · ·	oving.

### 4IT1\_01R\_Q03bii

### **Question Introduction**

Very few marks were gained from this question. The maority of responses that did not gain marks stated that the distance is further, so the transfer takes longer.

### **Examiner Comment**

Both marks awarded, for: 'signal weaker' and 'waves spread out'.

(ii) Explain why distance might affect the speed of the transfer. wireless As fat As the Access point, the signal become because the wave are sprad that wider when	(2) le to weallel it goes fal.

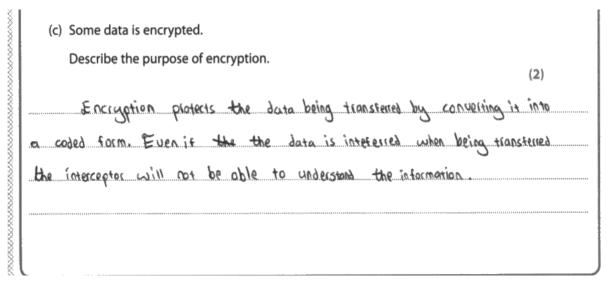
#### 4IT1\_01R\_Q03c

#### **Question Introduction**

Most responses gained marks for mention of preventing unauthorised access to data. Some responses simply repeated the question using encryption and decryption without explanation.

#### **Examiner Comment**

In this response, 'converting it to a coded form' was awarded the first mark and the second mark was awarded for 'interceptor will not be able to understand'.



### 4IT1\_01R\_Q03d

### **Question Introduction**

Many responses failed to gain marks as they implied that the signal was sent to the satellite and bounced back. Some candidates simply stated "using a satellite" but no indication of the signal, others wrote about receiving "information" from the satellite and in these cases it was apparent that it was more than just a signal.

#### **Examiner Comment**

This response gains both marks. The expansion about calculating 'a quick route' would not have been rewardable by itself.

Describe h	ow GPS works.				
Describe ii	OW GF3 WOLKS.				(2)
a GPS rec	cieves signa	ls from a	a satallit	te and	
	aids take				nals to
9	the exact		_	_	

# 4IT1\_01R\_Q03e

# **Question Introduction**

Some responses related to sat navs rather than GPS. In general, answers were a little vague.

### **Examiner Comment**

Two valid responses.

(e) Some social networking services use GPS data.	
Give <b>two</b> positive ways in which social network services use GPS data.	(2)
	(2)
1 They can be used to give (eal-time locations of filends	
2 They see he used to a first sounds with ass in Many	
2 They can be used to a find people who are in theme	
need of assistance and give this information to the police	

#### 4IT1\_01R\_Q03f

#### **Question Introduction**

The majority of candidates gained marks for 1024, 8 or both and many gained all three marks, often for a correct result of the calculation, rather than the complete expression.

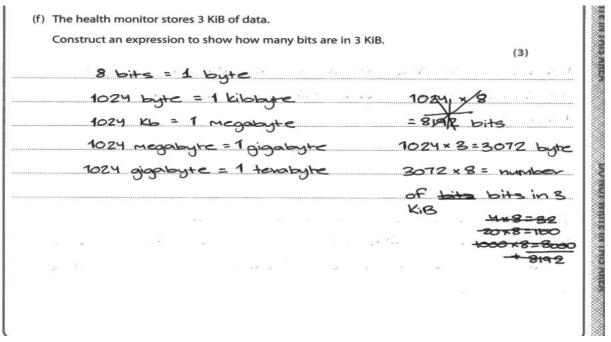
#### **Examiner Comment**

The first mark was awarded as we have sight of 8.

The second mark was awarded as we have sight of 1024.

There is a complete expression: 3072 = (3x1024), and x8 is there, so we have a complete equivalent expression. Therefore all three marks were awarded.

**Please note**: 1000 was accepted for 1024 in this series. However, this will **not** be the case in future series.



### 4IT1\_01R\_Q03g

#### **Question Introduction**

Candidates usually gained at least one or two marks for reference to purchase history and/or saved payment details but few managed to gain the linked marks.

#### **Examiner Comment**

Two marks were awarded.

One mark was awardable from the first part of the response, but both marks were awardable from the second, which also mentions use during checkout.



### 4IT1\_01R\_Q04ai

### **Question Introduction**

Many responses used 'relevant' to explain relevance (and so could not be awarded a mark). Many misunderstood 'age' as the age of competitors, rather than the information and many used 'reliable' to explain reliability.

#### **Examiner Comment**

- 1) 'related to purpose' gained a mark.
- 2) 'not outdated' gained a mark.
- 3) credible/accurate/trustworthy was not enough to be awarded a mark and 'reliable' is in the question.

### **Clip Instruction**

- 4 Ruwan searches online for local sporting events.
  - (a) Ruwan evaluates the fitness for purpose of the search results.
    - (i) Complete this table to show how each property can **positively** affect the fitness for purpose of information.

(3)

Property	Positive effect
Relevance	shows information that is useful and relates to the purpose of the security
Age	Shows information that is valid and not out dated
Reliability	thecks whether the information obtained can be trusted and is reliable and the data is more accurate and credible

### 4IT1\_01R\_Q04b

### **Question Introduction**

Many of candidates gained two marks for referring to keywords being compared to give results, but failed to gain the other linked points.

### **Examiner Comment**

Keywords (1) are compared (1) with the content (1) of URLs held in a database (1).

Returns the results having the closest match would have also gained a mark if we had not already awarded four(!)

### **Clip Instruction**

(b) Describe how a search engine works.  (4)
A user enter keywords into the search engine that
describes the information they are looking for Countines with
slarch syntax and help). The search engine then compares
The personal with the content and URLs of the mepages
in it, database and then returns the results having
the closest match. User may also use search types or
search took to retire their searches some search enging
also autotill for the use in the address has or give suggested

### 4IT1\_01R\_Q04d

### **Question Introduction**

Marks were usually awarded for reference to a database / blacklist / white list, while many candidates incorrectly described a web filter, which is commonly, colloquially and incorrectly referred to as a firewall.

### **Examiner Comment**

The first mark was awarded for reference to 'IP address', the second fo this being compare(d) and the third for reference to what the comparison is made against (a list of rules [whitelist]).

	(d) Describe how a firewall can be used to restrict access to a network. (3)
20000000	Firewall control the data bravelling into and out of a network.
00000000	They examine the IP addresses and parts of the data. They then
00000000	compare these to a list of rules. These rules determine kwhelher
20000000	the dota can be allowed to go in or out of a network. If This
2002000	is how frewalls restrict access to a network.
00000000	
COCCOCC	
NO CONTROL	
ADDIGEOUS AND ADDIGE	
20000000	
8	

#### 4IT1\_01R\_Q04e

Most responses were limited to the impact on individuals, rather than society. Many responses made more than one point.

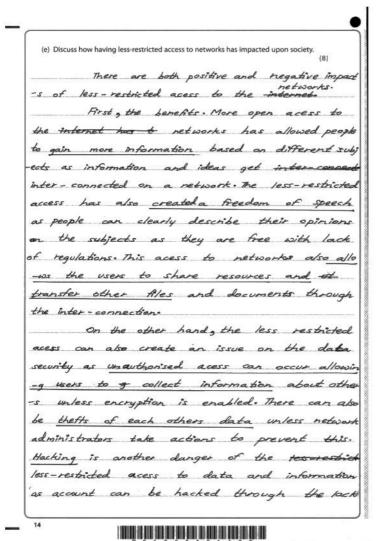
Common points were that 'communication will be easier around the world as people can use social media', 'information can be shared easily due to the Internet'. Many candidates' responses discussed that cyberbullying and hacking has increased due to less restricted access to network, although this was a tentative link to the requirement of the question.

#### **Examiner Comment**

This response makes a number of points, but they are general and, in the case of some of the positives (sharing resources) and the negatives in particular, these are not related to the topic of less-restricted access to networks. There is little relevance to society.

This meets Level 1 descriptor but does a little more, given the number of points that are attempted.

Four marks were awarded on a 'best fit' basis.



# 4IT1\_01R\_Q05a

### **Question Introduction**

Many responses did not gain marks as the common answer was a colloquialism relating to 'large geographical area'. Many said used by large organisation or spread over multiple cities, which was also not rewardable.

### **Examiner Comment**

This response gained the mark as it relates to 'a network of networks'.

James teaches	in a school that use	s a local area network	and a wide area network.	
(a) State what	is meant by the terr	n 'wide area network'.		(4)
		11 1 1 .	1 1	(1)
Wide alea	network link	the local are	e network to ano ethat two networ	thel in

#### 4IT1\_01R\_Q05b

#### **Question Introduction**

Once again, candidates often failed to gain marks as they did not provide linked responses.

Many candidates gained marks for an accessibility need and some linked this to a configuration. Few candidates went on to gain three or four marks.

#### **Examiner Comment**

Refer to the additional guidance section in the mark scheme for a rationale for how marks were awarded for this question.

The first mark was awarded for reference to how a microphone could be used instead of keyboard. The second mark was awarded for linking this to how some people cannot move thier hands and a further, third mark, for how the microphone allows for dictation. Finally, the fourth mark is awarded for linking to the fact that this is achieved by the user only needing to move their mouth (instead of typing).

(b) Some learners have accessibility needs.
Describe <b>one</b> way that ICT systems can be configured to support learners with accessibility needs.
(4)
# a microphone instead of keyboard
for the people that connot move there hands.
the microphone will allow the computers to
use Dictation instead of typing the
password. This is easier as Mey only need
to move their month.

### 4IT1\_01R\_Q05c

### **Question Introduction**

Many candidates confused roaming profile with the ability to monitor students online. Many others referred to teachers able to work remotely e.g. at home. Some candidates referred to roaming on mobile phone networks.

#### **Examiner Comment**

The mark was awarded for reference to teachers moving from class to class. The expansion does not provide enough rationale to gain marks. 'Planning from anywhere' was too vague to gain marks.

(c) Explain wh	ny roaming pr	ofiles could benef	t teachers.		(4)
TF	a +	each er	15	moxing	from
class	to o	lass 1	61 Ming	profile	s would
ensure	that	they	don't	lose	<del>COn</del> :
netwo	14 c	onnection	1. Also	they (	an plan
their.	tes te	ssons fro	em anc	where.	
					144411334444444444444444444444444444444
	hannen dereterken de				·
			.p	**************************************	:

#### 4IT1\_01R\_Q05e

### **Question Introduction**

Responses often showed understanding that the victim will not know the person bullying them, thus they cannot report them or tell anyone to stop it happening. Many responses did not gain the third mark, as they did not mention how the victim could be impacted.

#### **Examiner Comment**

The first mark was awarded for reference to the fact that this makes the effect worse.

The second mark was awarded for reference to not knowing who the offender is.

The third mark was awarded for reference to how this means that the victim cannot report it.

(e) Describe how th	e victims of cyber-bullying a	are affected by the anonymity of
		(3)
hnen and	other <del>account</del> an anon	nymous account is used for
Uberbullying to	t makes the effect o	on the victim even worse this is
		snow who is responsible and will not
have a method	method to report th	be cyber crimeto to tan adult
		things such as suicide forthe
Victim,	•	

### 4IT1\_01R\_Q05f

### **Question Introduction**

There were many one-word answers, such as 'presentation'. Simplistic responses relating to carrying out calculations using a spreadsheet appeared quite often, but were not rewardable.

### **Examiner Comment**

Two valid responses gaining marks from mark point 9 and mark point 6.

tools.		*	(2)	
 mainta	ing and	completing	assignments/project	15.
 Create	10905	,	· • • • · ·	
				*#7#7*4*4
	,			
	•			

#### 4IT1\_01R\_Q05g

#### **Question Introduction**

Many responses included a generic discussion on Wikipedia. Many responses mentioned simply that it is good as a source of information for students to help them complete their homework, but did not go beyond this to refer to how wikis can help with learning. Some responses mentioned that it is not reliable as it is editable by anyone.

#### **Examiner Comment**

'Wikis that are edited ... multiple editors' is relate to how wikis have changed our understanding of experts (this point could be phrased either positively or negatively).

'Proofchecked' is a valid point (although not the correct terminology).

The comment about to reference/add sources is valid but it is not related to the impact on learning. It's mentioned as a feature.

Internet connection...digital divide - these are irrelevant points.

'Collaborating' is valid and related to impact on learning.

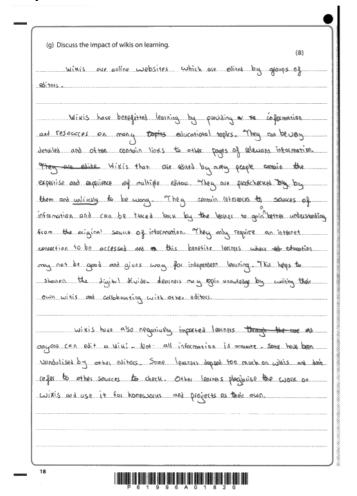
There are some negatives including the statement about anyone can edit so the information not being accurate.

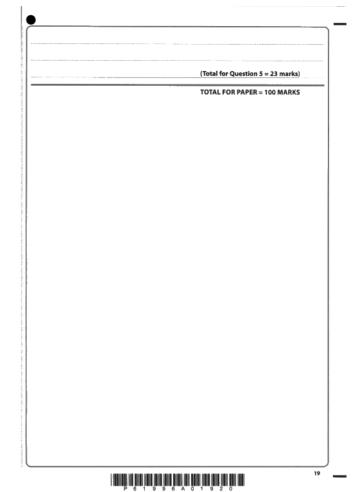
The reference to plagiarism is not directly relevant to the scenario.

This meets the descriptor for level 2 and creeps into level 3. Therefore, six marks were awarded.

#### **Examiner Tip**

Responses to 'Discuss' questions do not require a conclusion.





### **Paper Summary**

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

- 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
- When required to give one other example/reason, ensure the response is discrete from the given example/reason
- Practise a range of extended questions, not just balanced arguments
- Allocate time to plan responses to the extended questions

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