

Examiners' Report Principal Examiner Feedback

Summer 2019

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

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Grade Boundaries

Grade boundaries for all papers can be found on the website at: https://qualifications.pearson.com/en/support/support-topics/results-certification/grade-boundaries.html

Summer 2019
Publications Code 4IT1_01R_1906_ER
All the material in this publication is copyright
© Pearson Education Ltd 2019

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 ⊠. If you change your mind about ar answer, put a line through the box 暑 and then mark your new answer with a cross ⊠.



(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. Iherefore, 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.

2

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

(1,		Give two disadvantages to Kiki of using a wired method to connect to the smartphone.
		(2)
Mov	e .	expensive to set up wired connections due to requirements at

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.

NOCOCOSOC	(ii) Give two disadvantages to Kiki of using a wireless method to connect to the smartphone.	
2222		(2)
***********	1 It can easily be intercepted by unauthorised access	
ANADAMAN CONTRACTOR	2 Wireless concertors are slaver than wired concertors	,,,,,,
2272		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

4IT1_01R_Q01d

Question Introduction

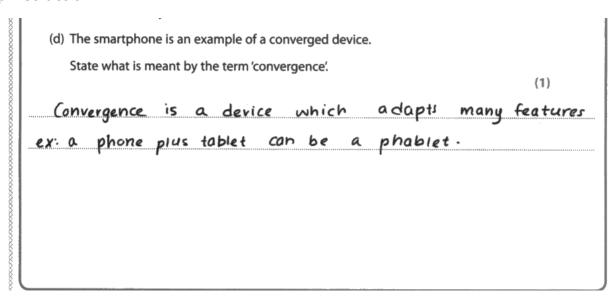
Many candidates failed to gain marks as they used 'design' instead of 'features'/'functionality'. Many responses referred incorrectly to multi-functionality and others to size and portability.

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 giga 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 two uses for utility software.	(2)
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 one drawback of using solid state storage.	(2)
they are very expensize to buy is harder to make and manufatture	as It

4IT1_01R_Q01i

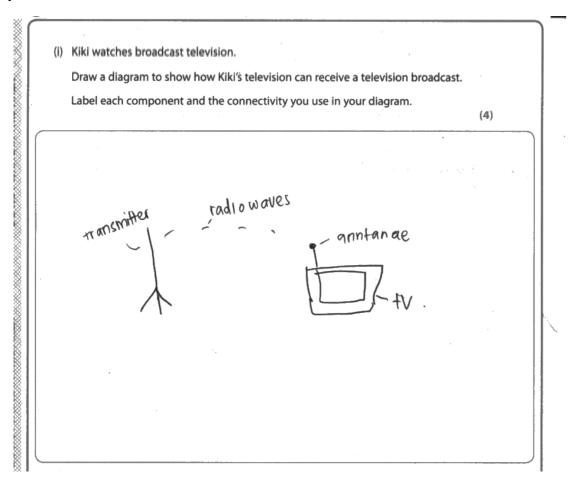
Question Introduction

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.

_	Interference		(2)
Interface	Interference Interferences	sher a dev	ico interferes
so it wou	ld affect the	signal of	VT alt
so affects	to broad cast	and the gi	rality of the
screen displo			J
3441 3500			
		(Total for Qu	estion 1 = 21 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

	1
2 Zara uses her tablet computer to watch TV online.	
(a) Describe the function of a gateway.	
(2)	
A galeway is used to connect thus types of networks	
togeather. Gakway can be used to connect network to the inkrnet	
	-

4IT1_01R_Q02b

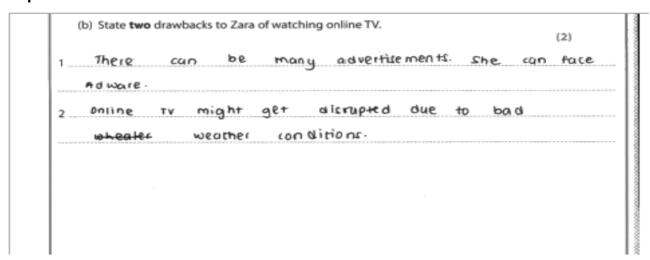
Question Introduction

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

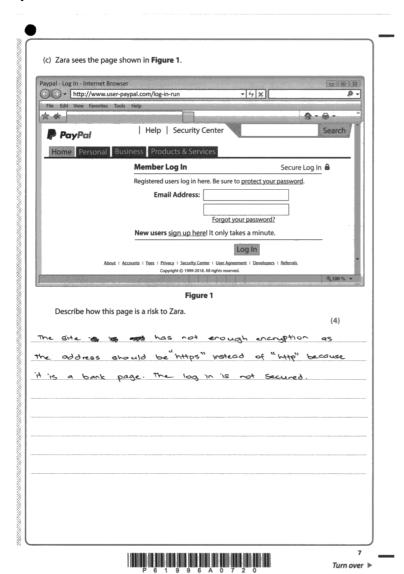
Many responses related to generic points on how this page is a risk. Some responses referred to how the ways in which people behave Online can lead to cyberbullying, hacking, and other unacceptable activities.

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'.

	(d) Give two drawb	acks to Zara o	f connecting her ta	blet comp	uter to her	television.	(2)
1	Both of	those	de vite) , (red Pach	tes	
2	There	cary	be in	e cres	ence	ic ic	
	her.	pblet	computer	21	in	onothe	

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	number The
tablets OS will run the PIN against 1 its butabase which	a contains
the correct PIN- If the value is wrong the entry is	lani denied
and if it matches the accentry is granted	

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 one disadvantage of using hosted applications.	(2)
it stow using hosted applications are much more slower	apps
TONTE THE TOTAL PROPERTY OF THE TOTAL PROPER	

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'.

1L	16		nat	wated	200	1	uld	i an i an a	(2 T n	,
	19	usually	not	υρααπο	410	1 very	- OLA	version		14111+++++++
order	Ł	for	the	user	to	U66	them	the	need	b
update	:	the	app	where	H .	ا انس	ake	storage	and	1+++++
the	#	tablet	will	have	less	storagi	E 687	for an	Ming	e)s-
						(Tota	l for Qu	estion 2 = 1	17 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.

ı	_							
	(b) Th	ne health i	monitor uses \	Ni-Fi Direct	to transfe	r data to the si	martwatch.	
	(i)	•	not a concer for this transf		hy Wi-Fi [Direct is a bette	er choice th	an
								(2)
	As	the	object	ìs ì	и 7	novement	, îv.	fraved might
	CONNE	ediou	needa	. 4,	be	stable	and	pointed in
								Pirect is
	a b	etter	choice	as it	(an	be ver	d ul	ile moving

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. wifeless As fat As the access point, the signal become weaker	,
because the wave are sprad wider when it goes far.	

	144 84 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6

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'.

(c) Some data is encrypted.	
(c) Some data is encrypted. Describe the purpose of encryption.	(2)
Encryption protects the data being transferred by	otni ti pnirsuno
a coded form. Even if the the data is interessed when	
the interceptor will not be able to understand the informati	

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.

Clip Instruction

(d) Ruwan's smartwatch uses GPS.

Describe how GPS works.

(2)

A GPS recie res signals from a satallite and navigation aids take advantage of the GPS signals to calculate the exact location of the driver and can be used to find a quick route to get to a place.

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 two positive ways in which social network services use GPS data.	(2)
1 They can be used to give (eal-time Cocations of friends	
2 They can be used to a find people who are in district	
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.

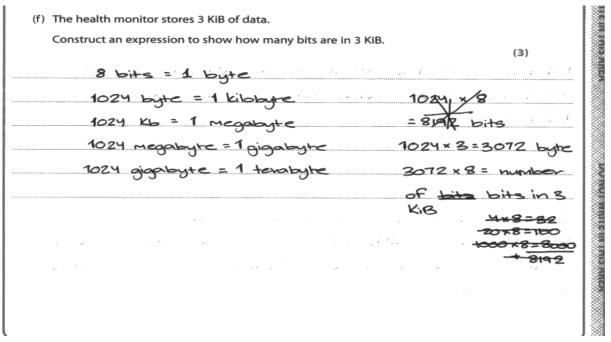
Examiner Comment

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.

Clip Instruction (g) Ruwan purchased his smartwatch online. Describe **two** ways in which transactional data could be used during a purchase. 1 transactional data can be used to allow a easier check out as the information is Saved 2 transactional data could be also used to allow the customer Sizes be sourced allowing for a faster chechout (Total for Question 3 = 18 marks) Turn over ▶

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 search,		
Age	Shows information that is valid and not out dated		
Reliability	thecks whether the information obtained can be trusted and is reliable . So 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 keymonds into the search engine that
describes the information they are looking for (cometine with
search syntax and son help). The search engine then compares
The keywords with the content and URLs et the ireppages
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 engine
also autoful for the user 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]).

Clip Instruction

(d) Describe how a firewall can be used to restrict access to a network. (3)
Firewall control the data bravelling into and out of a network.
They examine the IP addresses and parts of the data. They then
compare these to a list of rules. These rules determine twhether
the dota can be allowed to go in or out of a network. If This
is how frewalls restrict access to a network.

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.

Clip Instruction

(e) Discuss how having less-restricted access to networks has impacted upon society. There are both positive and negative impo -s of less-restricted acess to the internet First, the benefits. More open acess to the internet has to networks has allowed people to gain more information based on different sub; ects as information and ideas get inter inter-connected on a network. The less-restricted access has also created a freedom of speech as people can clearly describe their opinions on the subjects as they are free with lack of regulations. This acess to networks also allo -ws the users to share resources and of transfer other Ales and documents through the inter-connection. On the other hand, the less restricted acess can also create an issue on the data security as unauthorised acess can occur allowin -q users to g collect information about other -s unless encryption is enabled. There can also be thefts of each others data unless network administrators take actions to prevent this. Hacking is another danger of the testerbick less-restricted acess to data and information as account can be hacked through the k

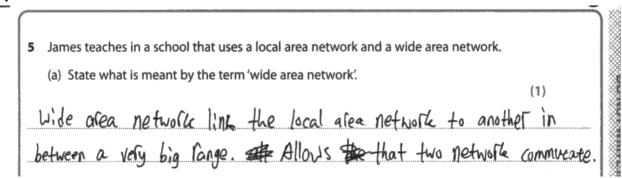
4IT1_01R_Q05a

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'.



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 one way that ICT systems can be configured to support learners with accessibility needs.
accessibility fleeds. (4)
a microphone instead of keyboard
for the people that cannot move there hands.
the micro phone will allow the computers to
use Dictation instead of typing the
password. This is easier as Mey only need
to move their mouth.

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	y roaming prof	les could benefit	teachers.		(4)	
If	a t	each er	15	moxing	from	
class	to d	ass 10	5aming	profil	65 WO	Ad
ensure	that	they	don't	lose	Con'	
netwo	14 co	nnection	LiAlso	they	can plan	1
their .	tes tes	sons fro	m any	where.		
***************************************					***4*4*****************************	
bb-b				***************************************	\	444444114444

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 the victims of cyber-bullying are affected by the anor offenders. 	nymity of
	(3)
when another account an anonymous account is	used for
Uperbullying it makes the effect on the victim eve	n worse this is
because the victim does not & know who is respons	ible and will not
have a method method to report the cuber crimets	to kanadylt
Or company which may lead to \$ things such as \$	vicide forthe
Victor,	

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.

	Give two examples of tasks that could be completed using office productivity tools.					
l	maintai	ing and	completing	assignments/projects		
)	Create	logos				
		~ '	-			

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.

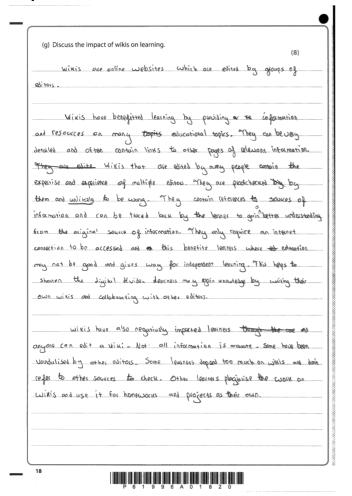
There are some negatives including the statement about anyone can edit so the information not being accurate.

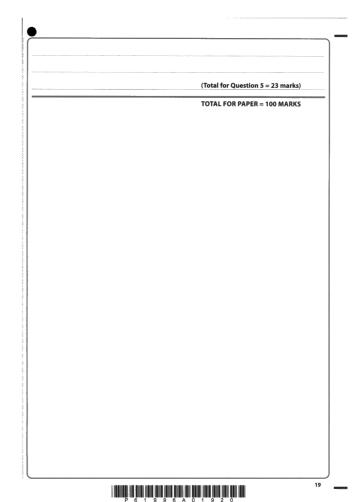
The reference to plagiarism is not directly relevant to the scenario.

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