Name:
IAL IT Topic 1 Examiner's Report
Date:
Date:
Time:
Total marks available:
Total marks available.
Total marks achieved:

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1		
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(i) and (ii) are multiple choice questions and the only correct answers are given in the mark scheme.

Q2. No Examiner's Report available for this question

Q3.

(ii) This question was about how location awareness works, in the context of a delivery driver's tablet computer knowing when it has reached company premises.

Frequently, candidates who wrote about GPS were confused as to how it works, with many saying that the satellites are somehow doing the calculations and telling the tablet where it is.

Those writing about using Wi-Fi often did not say that the tablet had to have Wi-Fi enabled for it to detect the company's signal.

(ii) The tablet is location aware.

Explain how the tablet 'knows' when it is on company premises.

in the previous connects to the internet and is able to detect it's location. It also has someotions a previously connected, which someotisms when the tablet is within range. These connections are include his or bluetooth connections.

Results Plus: Examiner Comments

This answer receives one mark for the part about GPS.

It receives two marks, just enough, for the Wi-Fi explanation.

Total: 2 Marks

(ii) The tablet is location aware.

Explain how the tablet 'knows' when it is on company premises.

(2)

A aps Colobal positioning system) technology maybe used by the driver's tablet, which uses 1 satellites and microwave signals to locate the crack coordinates of the driver an tablet

Results Plus: Examiner Comments

This is a typical one-mark GPS answer.

The candidate knows something about GPS, but does not say anything about a stored/home location being needed.

Total: 1 Mark

Q4. No Examiner's Report available for this question

Q5.

This question describes the use of passive RFID tags on toll roads and asks how the system might work. Several candidates seem to have got no further than reading 'RFID tag' and then described their use in preventing theft from shops.

The mark scheme lists five marking points. Any coherent combination of three of them would get full marks.

Q6.

This question asked why a video needs to be sent over Ethernet cables while the video's audio track can be sent over Bluetooth. It required the candidate to understand the difference in file size, as well as the difference in bandwidth of the two transmission media.

When a video is sent to the projector it requires an Ethernet cable connection but the audio track for that video can be sent to the sound system via Bluetooth.

Explain why the video must be sent by Ethernet but the audio only needs Bluetooth.

The ethernet sends to ontire video and since

the producter does not have any speaker,

It will connect to the sound system Via

bluetooth and therefore enoble the user to hear

and see the video with low latercy.

Results Plus: Examiner Comments

The candidate is simply describing the situation, which was explained in earlier parts of this question. It does not answer the question.

Total: 0 Marks

When a video is sent to the projector it requires an Ethernet cable connection but the audio track for that video can be sent to the sound system via Bluetooth.

Explain why the video must be sent by Ethernet but the audio only needs Bluetooth.

(2)

The video track is consisted at imager and audio, therefore a proper ethernet conection is required to send the imager directly to projector with out any Lag or loss of clota, And as the audio file is small, it can be transfered to the species via bluetooth

Results Plus: Examiner Comments

This response is a slightly different approach, well-linked to the question.

First half of example 2 plus implied file size difference.

Total: 2 Marks

When a video is sent to the projector it requires an Ethernet cable connection but the audio track for that video can be sent to the sound system via Bluetooth.

Explain why the video must be sent by Ethernet but the audio only needs Bluetooth.

(2)

Shis is because a video like is generally much larger in size due to the amount of things going on in it. But since an audio tile is nothing but sound it does not have much size in terms at file size and so can be easily thankvied via thurtooth.

Results Plus: Examiner Comments

This answer says only that video files are bigger than audio files, obtaining mark point 1.

Total: 1 Mark

When a video is sent to the projector it requires an Ethernet cable connection but the audio track for that video can be sent to the sound system via Bluetooth.

Explain why the video must be sent by Ethernet but the audio only needs Bluetooth.

(2)

The video contains more data packets hence it has be possible or take longer time to send via bluetooth. But However, audio can be sent through bluetooth since it has less datapackets, it? I easily transfer to the sound system.

Results Plus: Examiner Comments

This response is a variation on the file size mark point.

It concerns there being more data packets in video than audio. Since the question is about sending files, this is an acceptable alternative.

Total: 1 Mark

(i) asks for an expression for a calculation that converts between gibibytes and gigabits. No calculation was needed, although a small proportion of candidates tried to do one. None of the attempted calculations were correct.

The marks were for correct placement of items in the expression.

(ii) asks why file transfers might not reach the rated speed of the cables in the LAN. The mark scheme lists acceptable answers.

Answers about cable or other hardware damage were not accepted.

08.

This was an extended writing question in the form of a long essay, about introducing and supporting digital devices in the context of a sixth form college. The mark scheme is levels based.

Candidates were asked to consider aspects of both hardware and software.

Most candidates obtained better marks than expected, possibly because of their own experience with digital devices in school or college.

More-able candidates also noticed the number of students involved, 1200, and based some good answers around the costs and logistics of dealing with large numbers of devices.

A new purpose-built sixth form college will be opening next year.

The college will have 1200 students.

The college has these decisions to make.

- Whether students will be allowed to use their own digital devices for their college work or only be able to use college-provided hardware.
- Whether to use web-based software applications, such as online productivity apps, or locally-installed software.

Evaluate the options and make recommendations on the decisions that the college should make. You could consider:

- technical support
- security
- · connectivity.

(12)

I C'CHAICRI SUPPORT STYDENDS WILL BE ARRESTING GAMP
+1910a) Levices It they will have to woon on me
or research for their work Prosecus beggs
Q-12205 a Web boson software applications
can be more useful to use ave to the
Coason that they down heep only accep
and this makes their woon samples and
a roper to finish and as the saffwerer
get up grades they will exple to be use how
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better to down load the software
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by threads with their other names hackers.
IN OTHER DO HERP BLETT DEVICES SOFTWARES
and safe they can have uses of firewalls
be check the movement traffic and block users
Who to gain access to sustem. use story
pressuords capital small letter-s numbers make
VIE OF PIN CODES BIOMEBILES: FINGER PRINT
face recognition food prints Just be recognize
the real week of the IT system.

Comectivity:
For the connectivity they could use with
Covere switcher moveme and a ventor
Nethons secrity system-
Con Clusian
I agree with the statement of College
to make use of these type of subject
With all the correct conditions and respected
hectes.

The answer does discuss technical support, security and productivity as required by the question, but only looks at the software.

The candidate does not make any recommendations on the decisions that need to be made.

This is a mid-Level 2 answer.

Total: 6 Marks

A new purpose-built sixth form college will be opening next year.

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- 1. Whether students will be allowed to use their own digital devices for their college work or only be able to use college-provided hardware.
- 2. Whether to use web-based software applications, such as online productivity apps, or locally-installed software.

Evaluate the options and make recommendations on the decisions that the college should make. You could consider:

- technical support
- security

connectivity.	(12)
If the contrary were to from he its students with correge-frond	,
may not Yank the compt - Oravided hardware, They would now God mi	
the Econology Provided by the School	
furthermore, conrac-provided hardwore would be hard to	maintain for lite contrige and
might be ineffections. The hordware would need constant	t updates and had to be
Powers (changed a pregnet h).	
The conseque Provided hardware would be seratively school	
from misusing its the hordware devices. He correge m	ay Peoule an internet connection,
however it would be show as about 1200 Studen	
Compaction this would incur entra casts to the compact	•
If the contract were to amon students to bring t	his own digital dises it
would be more convenient Students can access data	Combalatry. Students derice
may be 40-to-date making it fact and secure. Student	-

Passinoids Parthuration to Aroket Like daries and data. Students may access the interest
Using a mobile connection rather than the some conege provided internet, which would be
more take Antoniah studios may move that degital derice it would be more
comparison for the School and its Students, as students can store this data with bloom
and take this deviae back have without having to trans them of school 714 school will not have
to spend a not of many on correge-provided hardware
The conveye should use web-based Softman appropriate as it would be much prove more
effections to the contege and the Students, Web-based Software are up-to-date which
tocarry-instanted software would need to updated manuarry. Web-based softwards may
also other 2417 Ecchnical Supplied it you would need any hop Litouxoca, web based softwares
are not as Sewic as a recomptinitional software, and advants and popular may appear and
it criculd could apper mornage to enter the device, but it can be avoided by
having a strong anti-movum software. The ux of anninet based software would
Arrow Life correct to upload alabolintampation (Accordations, modes) online so students could alect
these from fire at a later Line, Howard, there againstions cannot be accessed in Hout
an Internet connection, which would make the uses be unosed to access the fire.

This answer discusses both hardware and software. Some of the aspects could have had more detail but there is enough to reach Level 3.

There are no recommendations for devices and the answer was assessed as being at the lower end of Level 3.

Total: 9 Marks

A new purpose-built sixth form college will be opening next year.

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- 2. Whether to use web-based software applications, such as online productivity apps, or locally-installed software.

Evaluate the options and make recommendations on the decisions that the college should make. You could consider:

- technical support
- security
- connectivity.

(12)

using their own devices no technical support will be needed as the students are
already lumition with their own duries du to them having it for a long period
of time as such they want need tech support furthermore, Since students are
using their own digital devices they will go to great lengths to protect them
and the chances of their duries being stoken is stim. Rostly, Since most of
the devices have their own son cords most likely they will use their own
callular considion this way the college wont have to provide considering
to the interest for students. In conduction my opinion I believe the edlege
should allow students to bring their own digital devices as it is more cost
effective and beneficial for both the catego and students.
with if the college using locally installed software there is no internet connections
required this allows the use of being able to store files online or they could
have it made available offline. Ruthermore Since the software is available locally
on the device this means that the selfware in itself does not require an
interest correction and work can be done white you are offline
However if the college uses are based software they will require an internet
connection this means that the files can be made affline but cannot be
edited unless there is an internet du to the web based coltumne itself
requiring an internet consider to run meaning working on the files ofthing

software applications

This answer covers technical support, security and connectivity for both devices and software.

It has a good discussion of the issues and makes recommendations with reasons.

is not possible therefore is betieve it is the better option to use bookly

installed solvers therefore the college should use locally installed software

affline on locally installed software whereas this can't be done on web based

as it is more commented as files can be diled as well as made

This is easily a top of Level 3 answer.

Total: 12 Marks

A new purpose-built sixth form college will be opening next year.

The college will have 1200 students.

The college has these decisions to make.

- Whether students will be allowed to use their own digital devices for their college work or only be able to use college-provided hardware.
- Whether to use web-based software applications, such as online productivity apps, or locally-installed software.

Evaluate the options and make recommendations on the decisions that the college should make. You could consider:

- technical support
- security
- · connectivity.

(12)

This is because their such digital devices used in the college is

More Service than diawing to use the general devices provided by the school.

This is because the student coolid these not like it it anyone about have to tamer with their school work or even have access to them.

Elt is more effectent for students to have their provide will rower other.

than assing the general one provided by the school because due to two many users on the certification to be recommended by the school because due to two many users on the certification to be recommended by the school because due to two many there is so the source of the school because due to two many the school of the school because and there is

Results Plus: Examiner Comments

This is a Level 1 response.

The answer does include a few points about devices, but not the software.

The first sentence of the second paragraph could be seen as a sort of recommendation.

The answer was assessed as being mid-Level 1.

Total: 3 Marks

Q9.	
(i) was answered well.	
(ii) was less well answered than expected as many candidates gave answers about functions of an operating system, given in the stem, rather than functions of firmware.	f
Q10.	
(ii) This question asked for the type of memory used to store firmware. It followed on from a multiple choice question on firmware in (i). An incorrect answer in (i) should not have affected how this question was answered.	
(ii) State the type of memory used to store firmware.	
RAM-random access memorg	
Results Plus: Examiner Comments Random access memory (RAM) was probably the most frequent incorrect answer. Total: 0 Marks	
TOTAL O MAIKS	_
(ii) State the type of memory used to store firmware.	
Rom	

Read-only memory (ROM) was probably the most frequent correct answer.

Total: 1 Mark

Q11.

- (i) was about features of a smart TV to assist people with visual impairment. Although there were a lot of good answers, too many candidates responded with statements that would apply to a computer monitor, rather than a TV set.
- (ii) was rather poorly answered, with the majority of candidates giving generic information about accessibility, rather than explaining why a manufacturer would include accessibility features.

Q12.

(i) Asks about security risks when using an NFC card to pay for entry to a botanic garden.

This is worth four marks but is effectively two lots of two marks.

The answers in the mark scheme are indicated to be 'such as' and are therefore not a definitive list. The answers need to be relevant to the context of paying for entry, so answers about the card being stolen or skimmed/cloned would not be correct.

(ii) Asks how the data being transmitted by NFC can be protected.

This is worth two marks and the correct answer is to set up secure channels to prevent eavesdropping. Secure channels involve data encryption, so a simple answer such as encrypt the data would be worth one mark.

The question is about data being transmitted so answers involving card shields or other methods of blocking the card from being read would not be correct.

Q13.

(i) Asks for a description of how passive RFID works.

This worth four marks.

The mark scheme lists facts that could be part of a response. The examples give three possible ways of assembling those facts into a description. If a listed fact can be identified in the

description, it should get a mark.

The examples are not a definitive list and other descriptions could get the marks, such as 'The RFID tag has an antenna, which picks up and is powered by a signal from the reader. The tag then returns its ID information.'

(ii) Asks how the shop could use RFID tags on the plants. The mark scheme lists acceptable answers. No others were seen but any reasonable use that is relevant to the context would be allowed.

Answers about preventing theft would not get a mark as that is given in the question.

Q14.

Asks about the information that a QR code contains that enables a scanner to read it.

This is worth three marks. The mark scheme lists all the acceptable answers.

Q15.

This is a short essay question about licensing options for an art package to be used on desktop PCs in a school. Candidates are asked to consider three options.

This is worth six marks.

The indicative content in the mark scheme includes a description of what each license type involves with some benefits and drawbacks of each. Good answers do not need to include all the benefits and drawbacks but should consider each of the three license types.

The level three descriptor requires 'accurate and relevant knowledge, and a balanced and fully developed discussion'. Balance may be satisfied by discussing/comparing the three licence types. Relevancy can be shown by linking the licences to the context of the art package being used in a school.

Q16. No Examiner's Report available for this question

Many candidates either did not attempt it or appeared to stop after a brief try. Those who did try to complete the question often scored over half marks although none managed full marks.

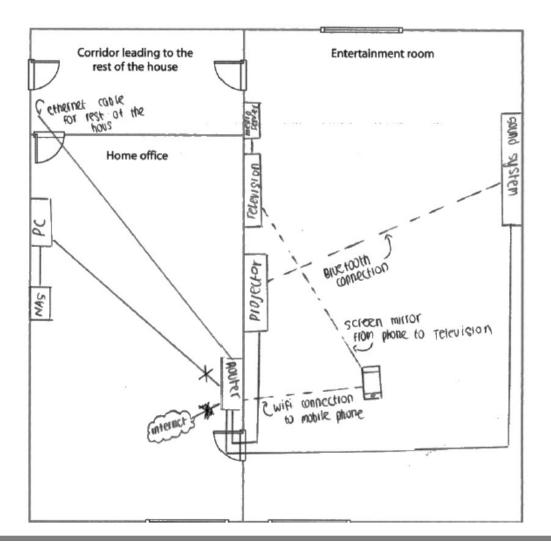
Q18.

(a) This was a large practical question. Candidates were asked to analyse a set of requirements for an extension to a home network. They then needed to draw a network diagram that met those requirements.

The specification does not include a standard set of network symbols, so candidates were told they may use a labelled box or symbol. Marks were **only** awarded for labelled items.

The question stated that connection media, Ethernet and wireless, must use solid and dotted lines respectively. Candidates could only obtain marks for other ways of showing connection media if they were clearly labelled and used consistently in their diagram.

Nearly everyone who attempted the diagram was able to gain some marks. Common weaknesses were in not showing the existing connections to the internet or the rest of the house.



The answer receives:

Mark points 1 and 2, Internet connection going to a router

Mark point 3, cable to the rest of the house

Mark point 4, NAS and PC in office, with cable

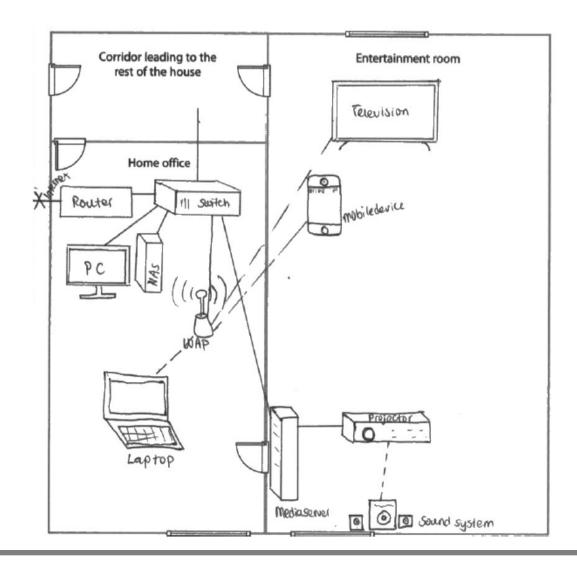
Mark point 10, mobile device linked to TV

Mark point 11, projector linked to sound system

The diagram does not include a laptop, switch or WAP, so misses mark points 5 to 8.

The TV is not linked to the network by cable, so misses mark point 9.

Total: 6 Marks



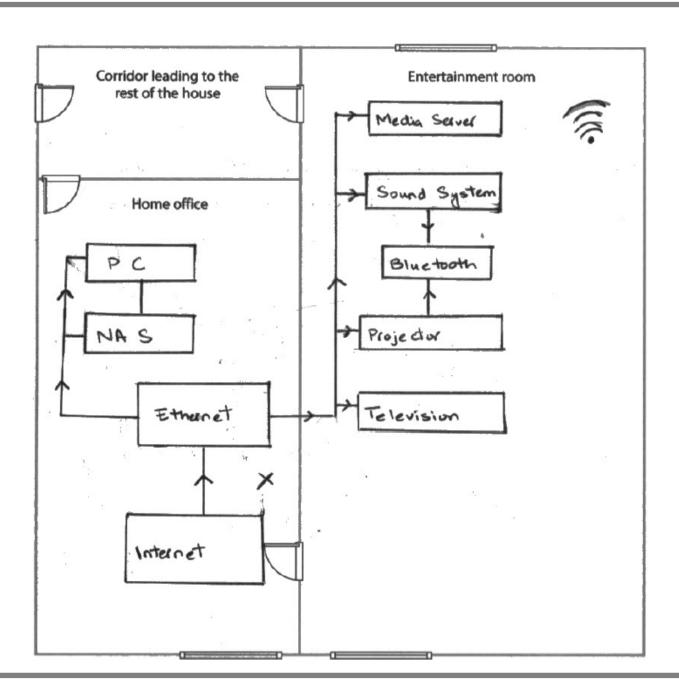
Results Plus: Examiner Comments

The diagram only misses mark point 9, the TV is not linked by cable.

The short cable leading into the room top left is the minimum acceptable for mark point 3, cable to rest of house.

The candidate draws a number of 'realistic' symbols, eg the laptop and PC. These would not receive a mark if they were not labelled correctly.

Total: 10 Marks



Results Plus: Examiner Comments

This diagram receives:

Mark point 1, the internet connection. It does not need to be outside the house.

Mark point 4, NAS and PC connected by cable, ignore the arrows on the cables.

Mark point 9, media server, projector, TV with cables. Ignore the way the cable branches.

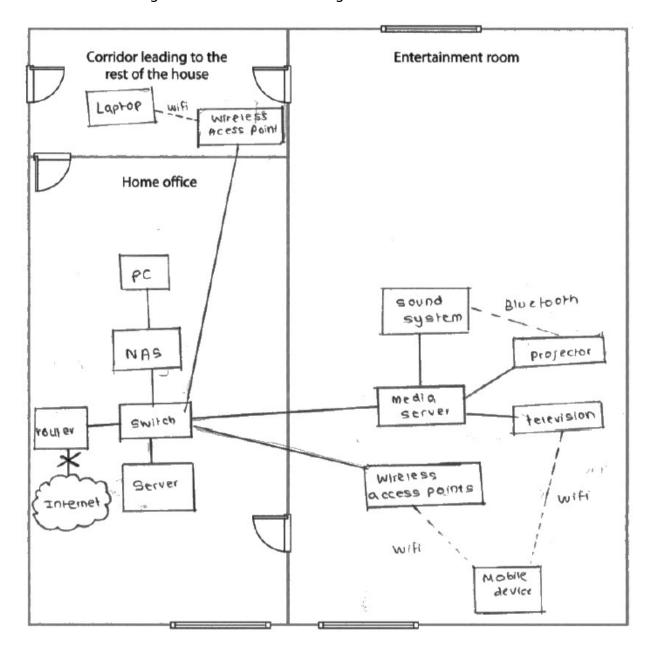
It does not receive mark point 11, projector wireless link to sound system. Although there is a box saying bluetooth, the link is shown using cables.

It does not receive mark points 6 or 7 because the object that might be a switch is labelled Ethernet.

There is no laptop, WAP, mobile device, or link to rest of house shown in the diagram.

Total: 3 Marks

(b)(i) This question asked for the candidates to show where a hardware firewall could be added to the diagram. It was poorly-answered, with numerous candidates trying to put the hardware firewall inside an existing device instead of adding it to the network.

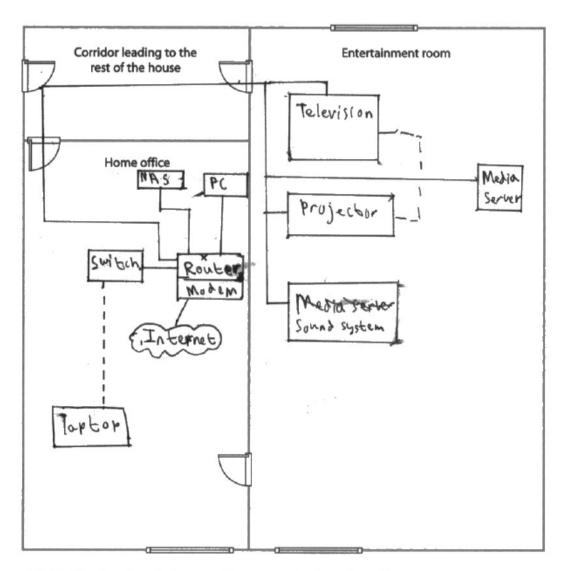


- (b) Paula's network can be improved by adding a hardware firewall.
 - Draw an X on your network diagram to show where the hardware firewall should be located.

This is the correct answer, with the X between the internet and the router.

If the candidate had not had a router in their diagram, the X would have been acceptable between the internet and the first network device to which it connected.

Total: 1 Mark



- (b) Paula's network can be improved by adding a hardware firewall.
 - Draw an X on your network diagram to show where the hardware firewall should be located.

(1)

Results Plus: Examiner Comments

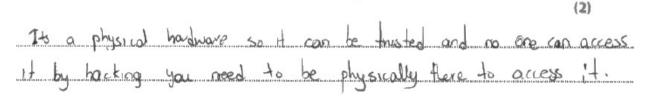
Although the diagram shows the internet and the router, the candidate has put the hardware firewall inside the router instead of adding it bewteen the internet and the router.

Total: 0 Marks

(b)(ii) This question asked for an advantage of a hardware firewall over a software firewall. It was not answered well, with many candidates saying that hardware firewalls could only be attacked/hacked at their physical location instead of via the network/internet.

This is a zero mark answer

(ii) Explain one advantage of a hardware firewall over a software firewall.



Results Plus: Examiner Comments

This answer illustrates the common, incorrect idea that a hardware firewall can only be hacked at the firewall's location.

This is a two mark answer.

(ii) Explain one advantage of a hardware firewall over a software firewall.

				i i			(2)
It pre	wenk	drauth	ored	devius	hem	Concern	Cr
entern 1	c nohous	1	1-1-	and prol	1. 1k C	all de	iva bra
malizarus	C C			1 1-2			
Unauthind	- dah	while	2	Softwee	only	Proces	The
device		(1)		1 installe			

Results Plus: Examiner Comments

This answer is mark point 2, protecting the whole network rather than just the device it is installed on.

Q20.
This question asks how an operating system could manage security in a school network. The mark scheme lists acceptable answers.
Other methods that could reasonably be used in a school setting would be acceptable.
Q21.
(i) asks for the purpose of system software. The mark scheme lists acceptable answers. There are many ways of expressing the purpose but essentially the answer must be about allowing control of the hardware.
(ii) asks for the purpose of application software. The mark scheme lists acceptable answers. Answers may include examples of tasks such as creating a document, or examples of software such as a browser or word processor.
Q22.
The great majority of candidates were able to answer (i) and (ii) correctly.
Q23.
This question concerned technological convergence. It asked for tasks that a smartphone can perform that could previously could only be done using a PC.
The question stated that text-messaging was introduced in the early 2000s and may not be used as one of the tasks.
Most candidates had some ideas, but many were unaware that tasks such as video calls, joining a network, and taking photographs were possible with non-smartphones in the 1900s.

Website traffic statistics show that mobile devices, such as smartphones, are now used more often than desktop PCs.

A smartphone is an example of technological convergence. In the early 2000s, mobile phones were given extra features, such as text messaging. Since then they have been developed to perform other tasks that previously could only be done using a PC.

Give **two** tasks, apart from text messaging, that a smartphone can be used for that previously could only be done using a PC.

(2)

1 Vidio calls for example over skype or
200m
2 connect to a network

Results Plus: Examiner Comments

Video calls have been available since 1970.

Mobile phones have had to be able to connect to networks in order to make calls, since they were first sold in the 1970s.

Total: 0 Marks

A smartphone is an example of technological convergence. In the early 2000s, mobile phones were given extra features, such as text messaging. Since then they have been developed to perform other tasks that previously could only be done using a PC.

Give **two** tasks, apart from text messaging, that a smartphone can be used for that previously could only be done using a PC.

1 Dota saving
2 Bowser

Results Plus: Examiner Comments

Response 2, browser is accepted as just enough for mark point 1, browsing the internet.

Response 1 is not enough because phones were able to store data, in the form of phone numbers, many years before smartphones were introduced.

Total: 1 Mark

A smartphone is an example of technological convergence. In the early 2000s, mobile phones were given extra features, such as text messaging. Since then they have been developed to perform other tasks that previously could only be done using a PC.

Give **two** tasks, apart from text messaging, that a smartphone can be used for that previously could only be done using a PC.

(2)

1 <u>Video streaming</u> 2 <u>gaming</u>

Results Plus: Examiner Comments

Gaming receives mark point 4, playing games.

The first response, video streaming, could be awarded as mark point 1 or 5.

Total: 2 Marks

- Q24. No Examiner's Report available for this question
- Q25. No Examiner's Report available for this question
- Q26. No Examiner's Report available for this question