

GCSE (9-1)

Candidate Style Answers

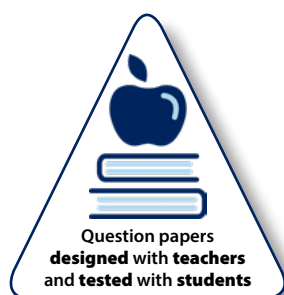
COMPUTER SCIENCE

J277

For first teaching in 2020

01 – Computer Systems

Version 1



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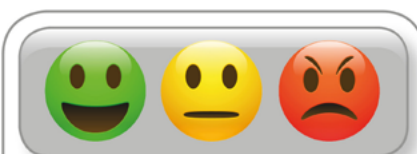
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Introduction

We have produced this resource on the sample question paper for J277/01 Computer Systems: <https://www.ocr.org.uk/Images/552500-computer-systems-.pdf> with help from students and teachers. The sample answers shown have been taken from original student work to keep their authenticity.

Please note this resource is provided for advice and guidance only and does not in any way constitute an indication of grade boundaries or endorsed answers. Whilst a senior examiner has provided a possible level for each Assessment Objective when marking these answers, in a live series the mark a response would get depends on the whole process of standardisation, which considers the big picture of the year's scripts. Therefore the level awarded here should be considered to be only an estimation of what would be awarded. How levels and marks correspond to grade boundaries depends on the Awarding process that happens after all/most of the scripts are marked and depends on a number of factors, including candidate performance across the board. Details of this process can be found here: <https://ocr.org.uk/Images/142042-marking-and-grading-assuring-ocr-s-accuracy.pdf>

Question 1 (a)

- 1 The specification of two CPUs is shown in Fig. 1.

Computer 1	Computer 2
Clock Speed: 1 GHz	Clock Speed: 1.4 GHz
Cache size: 2 MB	Cache size: 2 MB
Number of Cores: 4	Number of Cores: 2

Fig. 1

- (a) When running a 3D flight simulator, Computer 1 is likely to run faster than Computer 2.

Using the information in Fig. 1, identify **one** reason for this.

.....
 [1]

Exemplar 1

1 mark

..... Computer 1 has more cores

Examiner commentary

The candidate has met mark point 1 'It has more cores.' This is an ideal answer.

Exemplar 2

0 marks

..... Has a better clockspeed at 1.4GHz rather than 1GHz

Examiner commentary

The candidate has stated why Computer 2 may be faster than 1 which is not answering the question (NAQ).

Question 1 (b)

(b) Identify **two** other parts of a computer that are not in **Fig. 1**, which could improve the performance of the computers.

1

2

[2]

Exemplar 1

2 marks

1. SSD

2. RAM

Examiner commentary

The candidate has given two valid components, meeting mark point 1 and mark point 2..

Exemplar 2

1 mark

1. amount of ram

2. Storage

Examiner commentary

One mark has been given because the amount of RAM meets mark point 1. Storage, on its own, is too vague and is not given a mark as it is not clear what type of storage is referred to.

Question 1 (c)

(c) Explain one reason why the cache size affects the performance of the CPU.

.....

.....

.....

..... [2]

Exemplar 1

2 marks

More cache means more data can be stored in it instead of the RAM. It is faster to transfer from the cache to the CPU than the RAM to the CPU.

..... [2]

Examiner commentary

The candidate has met mark point 3 'it is faster to transfer to and from cache', and then expands this to meet mark point 4 faster 'than transferring to and from RAM'.

Exemplar 2

1 mark

If the ~~at~~ cache size is larger it means the data will be transferred faster.

..... [2]

Examiner commentary

The candidate has met mark point 3 'It is faster to transfer to and from cache' but has not expanded this to give a comparison to RAM. It needed qualifying otherwise what it is faster than isn't known.

Question 1 (d)

(d) Identify two events that take place during the fetch-execute cycle.

1

.....

2

.....

[2]

Exemplar 1

2 marks

1 The computer Fetches the instruction for use from memory

2 The computer decodes the instruction

Examiner commentary

'Fetches the instruction' meets mark point 1 'An instruction is fetched from memory'.

'Decodes the instruction' meets mark point 2 'The instruction is then decoded'.

Exemplar 2

2 marks

1 It takes an instruction from the memory

2 Decodes the instruction then takes action to fulfil the instruction

Examiner commentary

'Takes an instruction from the memory' meets mark point 1 'instruction is fetched from memory'; takes is given the benefit of doubt for 'Fetches'.

'Decodes the instruction' meets mark point 2, 'The instruction is then decoded'.

The first three words of this response meet the criteria despite the rest of the sentence being slightly vague.

Question 2 (a)

2 Nina wants to transfer photos from a digital camera to an external secondary storage device.

(a) Define what is meant by 'secondary storage'.

.....
..... [1]

Exemplar 1

1 mark

Non-volatile storage that can permanently
store data

Examiner commentary

'Non-volatile storage' meets mark point 1.

Exemplar 2

0 marks

A type of storage, ~~as~~ ^{for} example as CD's and DVD
are ~~in~~ secondary storage.

Examiner commentary

This does not describe what is meant by secondary storage - examples are given, not the requested definition.

Question 2 (b)

(b) Identify the **three** common types of storage Nina can choose from.

1

2

3

[3]

Exemplar 1

3 marks

1. Optical
2. magnetic
3. solid state

Examiner commentary

The candidate has successfully identified all three types of secondary storage and deserves the full three marks.

Exemplar 2

3 marks

1. Optical
2. Magnetic
3. Flash

Examiner commentary

The candidate has identified optical and magnetic as two types of storage. Flash memory would receive a BOD (benefit of doubt) for solid state as an alternative name.

Question 2 (c)

(c) State four characteristics of secondary storage devices that Nina should consider when choosing a device.

- 1
- 2
- 3
- 4

[4]

Exemplar 1

4 marks

1. Cost
2. Portability
3. Durability
4. ~~Capacity~~ Storage Space

[4]

Examiner commentary

Cost meets mark point 6.

Portability meets mark point 3.

Durability meets mark point 4.

Storage space meets mark point 1 as alternative for capacity/size. 'Space' without the word 'storage' would not have been enough.

Exemplar 2

3 marks

1. Non-volatile
2. ~~Normally~~ cheap/cost
3. ~~Very durable~~ durability
4. portability

[4]

Examiner commentary

Non-volatile is not awarded a mark; this is a characteristic of all secondary storage devices, so it doesn't differentiate between them when choice is being considered.

'Cheap/cost' is given a BOD; cheap on its own as the first answer is insufficient but not fully incorrect therefore 'cost' is taken into account and awarded for mark point 6.

Durability meets mark point 4.

Portability meets mark point 3.

Question 3 (a)

3 A satellite navigation system (Sat Nav) uses RAM and ROM.

(a) Tick (✓) **one** box in each row to show whether each of the statements is **true** for the RAM or ROM in a Sat Nav.

	RAM	ROM
Stores the boot up sequence of the Sat Nav.		
The contents are lost when the Sat Nav is turned off.		
Holds copies of open maps and routes.		

[3]

Exemplar 1

3 marks

	RAM	ROM
Stores the boot up sequence of the Sat Nav.		✓
The contents are lost when the Sat Nav is turned off.	✓	
Holds copies of open maps and routes.	✓	

Examiner commentary

All three ticks are correct.

Exemplar 2

2 marks

	RAM	ROM
Stores the boot up sequence of the Sat Nav.		✓
The contents are lost when the Sat Nav is turned off.	✓	
Holds copies of open maps and routes.		✓

Examiner commentary

Statements 1 and 2 are ticked correctly. Statement 3 is ticked incorrectly.

Question 3 (b)

(b) The Sat Nav contains an embedded system. Define what is meant by an 'embedded system'.

.....
..... [1]

Exemplar 1

1 mark

A computer system within another device. Built
often for a set purpose

Examiner commentary

'A computer system within another device' is a very good answer - mark given.

Exemplar 2

1 mark

An embedded system is a controller with a dedicated function.....
.....

Examiner commentary

This is an alternative definition of an embedded system; it has a dedicated function because this refers to it being a specific purpose computer and not a general purpose computer; so it is worthy of 1 mark.

Question 3 (c)

(c) Identify **three** devices, other than a Sat Nav, which contain embedded systems.

1

2

3

[3]

Exemplar 1

3 marks

- 1... washing machine
- 2... dishwasher
- 3... microwave

Examiner commentary

These are all appropriate embedded systems. Because the mark scheme states e.g. before the possible examples it lists, it allows for other appropriate answers and 'microwave' is a valid answer.

Exemplar 2

3 marks

- 1... Smart TV
- 2... Dishwasher
- 3... smart phone

Examiner commentary

Smart TV and dishwasher are both valid answers and gain a mark each. Some smart phones have embedded systems (depending on their range of functionality) and therefore would be given a mark for mark point 4 - mobile phone.

Question 4 (a)

4 A computer records an audio file of someone playing a guitar.

(a) Describe what happens when the computer converts the music into a file.

.....

.....

.....

..... [2]

Exemplar 1

1 mark

The computer samples the sound and stores the sampled data in binary.

Examiner commentary

No mark is awarded for 'samples the sound' because the mark point requires 'the height of the wave' being sampled which the candidate has not given.

Mark point 2 is given for the sample being 'stored in binary'.

Exemplar 2

0 marks

When the computer converts it into a file it compresses it down. It gets rid of some of the bits and this makes it lower quality.

[2]

Examiner commentary

The candidate has not answered the question, instead describing compression, so no marks can be given.

Question 4 (b)

(b) The sample rate is increased on the computer when recording the guitar.

Give **two** effects this will have on the recording.

- 1
- 2

[2]

Exemplar 1

2 marks

- 1 The audio will sound clearer
- 2 The file size will be larger

Examiner commentary

'The audio will sound clearer' would be awarded a BOD (benefit of doubt) mark for 'the quality will improve' (mark point 1). 1 mark awarded. 'File size will be larger' meets mark point 3 for the second mark.

Exemplar 2

1 mark

- 1 Better quality
- 2 Increasing the sample size means the digital file picks up quieter sounds.

Examiner commentary

Better quality meets mark point 1. 1 mark awarded.

Picking up quieter sounds is incorrect.

Question 5 (a)

5 (a) Convert the binary number 11001011 into denary.

.....
 [1]

Exemplar 1

1 mark

..... $128 + 64 + 8 + 2 + 1 = 203$

Examiner commentary

203 is the correct answer. The question did not ask for the workings to be shown. 1 mark awarded.

Exemplar 2

0 marks

..... 193

.....

128	64	32	16	8	4	2	1
1	1	0	0	1	0	1	1

..... [1]

Examiner commentary

193 is incorrect. No mark awarded.

Question 5 (b)

(b) Complete a 2-place shift to the right on the binary number 11001011.

.....
..... [1]

Exemplar 1

1 mark

..... 00110010

Examiner commentary

This is the correct answer and gains 1 mark.

Exemplar 2

0 marks

11110010

Examiner commentary

This is incorrect so does not gain the mark.

Question 5 (c)

(c) Explain the effect of performing a 2-place shift to the right on the binary number 11001011.

.....

.....

.....

..... [2]

Exemplar 1

2 marks

Each time you shift right it divides by 2, therefore this has been divided by 4. Sometimes when you divide you end up with a decimal that cannot be represented and accuracy is [2] lost.

Examiner commentary

The candidate has met mark point 1 'this has divided by 4'.

They have met mark point 2 'loses precision' with 'accuracy is lost'.

A well-deserved 2 marks.

Exemplar 2

2 marks

Divides it by 2 ~~and~~ for every right shift. It's not entirely accurate however as $203 \div 4 = 50.75$

Examiner commentary

The candidate has identified that it loses precision 'it's not entirely accurate' to meet mark point 2.

They have stated it divides it by two for each shift which is insufficient for mark point 1, but they do show this division by four in the example and this is awarded mark point 1.

Two marks awarded.

Question 6

- 6 The table gives the ASCII code for the characters.

Character	ASCII code
L	76
M	77
N	78
O	79
P	80

Explain how the word MOP will be represented in ASCII.

.....

.....

.....

..... [2]

Exemplar 1

2 marks

MOP The individual letters in MOP are converted to ASCII which is 77, 79, 80

Examiner commentary

Mark point 2 is awarded for the correct representation 77, 79, 80.

The candidate states that each letters is converted to ASCII which meets mark point 1.

Exemplar 2

1 mark

77 79 80

Examiner commentary

This meets mark point 2 - the translation, but an explanation was asked for in the question. The candidate has not included an explanation, so only 1 mark can be given.

Question 7 (a)

- 7 The owners of a large bakery have a Local Area Network (LAN) with a star topology. They order their supplies over the Internet. When data is transmitted from the bakery to the supplier, network protocols are used.

(a) Define what is meant by a 'network protocol'.

.....
..... [1]

Exemplar 1

0 marks

..... a set of instructions the computer has
..... to follow in order to communicate with each other

Examiner commentary

The candidate has stated that it is 'a set of instructions' which is inaccurate; it is not instructions that must be followed, it is rules that are followed so the mark is not awarded.

Exemplar 2

0 marks

..... A set of instructions that one used to do
..... something [1]

Examiner commentary

The candidate has stated that it is instructions, rather than rules, which is inaccurate.

Question 7 (b) (i)

(b) TCP/IP is a set of protocols based on layers.

(i) With regards to network protocols, define what is meant by a 'layer'.

.....
..... [1]

Exemplar 1

1 mark

..... A group of protocols with similar features.....

Examiner commentary

This meets the guidance in that one layer is protocols with the same features - a BOD (benefit of doubt) is awarded for similar.

Exemplar 2

0 marks

..... ensures correct ~~inter~~ interception of.....
..... packets.....

Examiner commentary

This is incorrect because it doesn't show understanding of what a network is.

Question 7 (b) (ii)

(ii) Describe one advantage of using layers to construct network protocols.

.....

.....

.....

..... [2]

Exemplar 1

2 marks

Layers are self-contained, they can be changed without other layers being affected.

Examiner commentary

Mark point 1 is awarded for 'self-contained', and mark point 3 is gained for changing one layer without affecting the others.

Exemplar 2

1 mark

they are self contained.

Examiner commentary

Mark point 1 is awarded for self-contained. As the candidate has not explained why this is an advantage, the second mark is not given.

Question 7 (c)

(c) Give **two** reasons why the bakery may use a star network topology for their LAN.

1

.....

2

.....

[2]

Exemplar 1

1 mark

If one line fails the network will still function - It is easy to set up.

[2]

Examiner commentary

The mark point 3 mark is given for one line failing not affecting the rest of the network.

'Easy to set up' is insufficient for mark point 1; it may not be any easier to set up but it makes the addition of new nodes easier, so the second mark is not awarded.

Exemplar 2

1 mark

• If a client disconnects, no one else is affected.
• Information is harder to intercept.

Examiner commentary

Mark point 3 is awarded for 'if a client (computer or device) disconnect, no one else is affected'. The second mark is not given as the answer is incorrect.

Question 8 (a)

- 8 A hospital stores patients' details on its computer network. The hospital is concerned about the security of its patients' details.

(a) Staff already use strong passwords to protect systems. Explain, with reference to system security, **three** other ways that the hospital could protect the network system.

1

.....

.....

.....

2

.....

.....

.....

3

.....

.....

.....

[6]

Exemplar 1

5 marks

1. They could use a Firewall to keep out unauthorised users attempting to bypass the security.
2. Encrypt all data to stop data interception when sending it over networks.
3. Use anti-malware software to stop malware from spreading over a network or gaining control of one.

Examiner commentary

The three ways the surgery could be protected have been identified for the first mark in each case. Only responses 1 and 3 have correct expansions:

Firewall is awarded for mark point 1 and they have the suitable expansion for mark point 1 - 2 marks.

Encryption is awarded 1 mark, but it does not stop data interception so the expansion is not awarded - 1 mark.

Anti-malware is awarded mark point 2, and stopping malware spreading is appropriate for the expansion - 2 marks.

Exemplar 2

2 marks

1. anti-virus software - prevents viruses from deleting data from the network

2. anti-spyware software - prevents hackers from stealing data.

3.

Examiner commentary

Anti-virus meets mark point 2 - anti-malware, and they have given the suitable expansion for preventing viruses deleting data - 2 marks.

Anti-spyware is a repetition (REP) for anti-malware so no marks are given for the second response.

Question 8 (b)

- (b) Identify **three** errors that the hospital staff could make that may endanger the security of the network. Outline a procedure that could be put in place to prevent each error.

Error 1

Procedure 1

.....

Error 2

Procedure 2

.....

Error 3

Procedure 3

.....

[6]

Exemplar 1

5 marks

Error 1... The staff could write down usernames and passwords which others could then read.

Procedure 1... Stop any staff from writing down information that could cause endangerment of patients.

Error 2... The staff could open malicious documents that could spread malware over the network.

Procedure 2... Stop staff from opening documents sent via ~~mess~~ messages or emails.

Error 3... Staff could visit inappropriate sites that could contain malware.

Procedure 3... Use anti-malware software and limit what can be searched via the internet. [6]

Examiner commentary

1. Writing down the username and password is a suitable error. The expansion gets a BOD for stopping them from doing this - 2 marks.

2. Opening malicious documents i.e. malware is suitable; a BOD is given for 'stop' staff opening documents because a setting can prohibit this - 2 marks.

3. Visiting sites that contain malware is a REP of error 2; infected files. The procedure gains 1 mark.

Exemplar 2

4 marks

Error 1. Leave the computer unlocked

Procedure 1. Make sure it's always logged off before leaving it

Error 2. ~~Available to~~ Could be left in the open for anyone to access

Procedure 2. Keep it in a private locked room you need finger print scanner to open

Error 3. Others may look at the computers info

Procedure 3. Only let one person be in the room at a time

[6]

Examiner commentary

1. Leaving the computing unlocked is appropriate, the procedure is also sufficient - 2 marks.
2. Leaving a device somewhere is a risk, and keeping it locked is a suitable procedure - 2 marks.
3. The third error is vague and does not identify any errors made by the staff. The procedure is unrealistic to the given scenario in a hospital.

Question 9 (a)

- 9 A restaurant has a computer-based ordering system which is running slowly. A technician has said that the hard disc drive is fragmented. The technician has suggested using utility software to defragment the drive.

(a) Explain how the restaurant's hard disc could have become fragmented.

.....

.....

.....

..... [4]

Exemplar 1

3 marks

..... Data could've been added and deleted in a
..... system over time, leading to small gaps to fit new
..... information. Data cannot fit into these small gaps so
..... it's split into fragments and stored while fragmented.
..... This leads to the computer speed slowing as it has
..... to find multiple fragments of the data instead of
..... just one.

Examiner commentary

The candidate has identified that data is opened and deleted (1); this meets mark point 1, although not put into context with the restaurant.

The candidate has identified that there are small gaps (1), and then that data cannot fit in these gaps so it split across them (1).

There is no contextualisation to the restaurant and that is why this is limited to 3 marks.

Exemplar 2

3 marks

..... Over time, when files are moved or deleted or edited,
..... it creates gaps. When a new file is added it
..... saves part of it in the gap and the rest elsewhere
..... splitting it up. This slows down the device as it
..... has to read/write to the disk.

Examiner commentary

The candidate has identified that files are deleted (1) and that this creates gaps (1) that are then filled by files that are split over multiple gaps (1). There is no contextualisation so this is limited to 3 marks.

Question 9 (b)

- (b) Explain how defragmentation software could overcome the issue of the slow computer system.

.....
.....
..... [3]

Exemplar 1

3 marks

Defragmentation finds all the pieces of a file that have been split up and moves them back together. Any empty space on the hard drive is also put together for new files to be stored. This speeds up the hard ~~disk~~ disk as fewer requests need to be made for data. [3]

Examiner commentary

The candidate has stated that files are moved meeting mark point 1.

They have stated that files are moved to be stored together meeting mark point 3.

They have stated that empty space is moved to be stored together meeting mark point 2.

Exemplar 2

2 marks

Defragmentation software reorganises the data so that an fragmented data is reassembled. The ~~data~~ looks software looks for fragmented data and defragments it by storing it with the rest of the fragments. This speeds up the computer as ~~it only~~ the data is only stored in one location.

Examiner commentary

The candidate has explained the defragmentation software reorganises fragmented data so that they are reassembled and stored together. This meets mark point 3. They have not said that fragmented data is moved and it is only implicit in the response so a BOD mark has been awarded for mark point 1 because it is not explicit.

Question 10 (a)

- 10** A law company currently use a Local Area Network (LAN) linked to a Wide Area Network (WAN). They want to upgrade their system to utilise cloud storage.

(a) Define what is meant by a Wide Area Network.

..... **[1]**

Exemplar 1

1 mark

..... A network based over a large geographical area

Examiner commentary

Large geographical area meets mark point 1.

Exemplar 2

1 mark

..... is a big geographical area

Examiner commentary

Here, 'big geographical area' is sufficient for 'large' and so the mark is awarded as a BOD.

Question 10 (b)

(b) Explain two advantages to the law company of storing their data in the Cloud.

1

.....

.....

2

.....

.....

.....

[4]

Exemplar 1

4 marks

1 The cloud can be accessed by any device at any time with an internet connection. This can be helpful for a lawyer as they may need to travel for work.

2 The cloud is backed up by someone else so you don't need to worry and it is done regularly, this can save the company money.

Examiner commentary

The first part of the answer to 1 'can be accessed by any device at any time' meets mark point 3, and the candidate has expanded it appropriately in context - 2 marks.

'Backed up' meets mark point 8 and it is suitable expanded in saving money in having to do this - 2 marks.

This is the type of response looked for.

Exemplar 2

3 marks

1. It can be accessed anywhere so the data is more accessible and everything is in one place.
2. It has a large storage capacity so the company doesn't have to buy multiple drives.

Examiner commentary

Accessed anywhere meets mark point 3, but they have not expanded this in the context. - 1 mark.

Large storage capacity is awarded a BOD for mark point 1 (additional storage) and they get the expansion for it saving the company money as they don't need to buy more devices - 2 marks.

'The company' is enough for this to be put into context with the 'law company' mentioned in the scenario.

Question 10 (c)

(c) Explain **two** disadvantages to the law company of storing their data in the Cloud.

- 1
 - 2
- [4]

Exemplar 1

4 marks

- 1 You need the internet to access. If people are travelling they may not have access to the internet.
- 2 There may be hacking risks for the data in the cloud. The lawyers have no control over the security of their data.

Examiner commentary

Internet connection required meets mark point 1; they expand this stating that travelling may not permit this - 2 marks.

Security risks is appropriate, and expansion because they do not control the data - 2 marks.

Both are contextualised to different degrees; the first carries on from the previous response relating to 'people travelling' and the second is thoroughly contextualised by use of 'The lawyers...'

Exemplar 2

1 mark

- 1 One disadvantage is wi-fi is required in order to access the cloud.
 - 2 Service outages can always occur at any point.
- [4]

Examiner commentary

Wi-fi is not awarded a mark, because wi-fi is not always required; it could use a wired connection.

Service outages occurring is a suitable point (1) but this is not appropriately expanded as to why it is a disadvantage.

Question 10 (d)

(d) Fig. 2 lists some actions that may take place in the law company's office. Tick (✓) **one** box in each row to show which legislation applies to each action.

Action	Data Protection Act 2018	Computer Misuse Act 1990	Copyright Designs and Patents Act 1988
Using a picture for the law company's new logo without the original creator's permission.			
A secretary accessing a lawyer's personal email account without permission.			
Making a copy of the latest Hollywood blockbuster movie and sharing it with a client.			
Storing customer data insecurely.			
A lawyer installing a key logger on the secretary's computer.			
Selling client's personal legal data to a marketing company without their permission.			

Fig. 2

[6]

Exemplar 1

6 marks

Action	Data Protection Act 2018	Computer Misuse Act 1990	Copyright Designs and Patents Act 1988
Using a picture for the law company's new logo without the original creator's permission.			✓
A secretary accessing a lawyer's personal email account without permission.	✓	✓	
Making a copy of the latest Hollywood blockbuster movie and sharing it with a client.			✓
Storing customer data insecurely.	✓		
A lawyer installing a key logger on the secretary's computer.		✓	
Selling clients personal legal data to a marketing company without their permission.	✓		

Examiner commentary

This shows all correct answers ticked - there are no incorrect ticks.

Exemplar 2

4 marks

Action	Data Protection Act 2018	Computer Misuse Act 1990	Copyright Designs and Patents Act 1988
Using a picture for the law company's new logo without the original creator's permission.			✓
A secretary accessing a lawyer's personal email account without permission.	✓		
Making a copy of the latest Hollywood blockbuster movie and sharing it with a client.			✓
Storing customer data insecurely.	✓		
A lawyer installing a key logger on the secretary's computer.		✓	
Selling clients personal legal data to a marketing company without their permission.		✓	

Examiner commentary

There are 4 correct ticks. Actions 2 and 6 are incorrect.

11 * People often want to buy the most up-to-date smartphones, even though the smartphone they own still works.

In your answer, you might consider the impact on:

- smartphone users
- cultural issues
- ethical issues
- environmental issues.

[illegible]

Exemplar 1

Mark Band 3 – 6 marks

It would be good for smartphone users because they get better phones and features, another reason is that it is good for the smartphone market and keeps them making good. One reason it is bad for ~~smartphone~~ smartphone users because it costs a lot of money.

It would be good for culture because it means people can communicate widely and freely, one reason it is bad for culture is because it could create peer pressure and if someone doesn't have a new smartphone they could get bullied.

It would be bad for the ethical reason that people would be working in bad conditions. [8]

One reason it would be bad for the environment is because it creates landfill and leads to high amount of pollution. Another reason it is bad for the environment is because precious metals are used which is a waste. Overall I think upgrading to the newest smartphone is unnecessary as it leads to high amounts of pollution.

Examiner commentary

The candidate has covered all required aspects and attempted to give a reasoned discussion. Some of these points are limited or not expanded suitably to explain why this is a positive/negative impact e.g. the ethical response, which is limited in depth. Environmental factors considered focus heavily on the negative impact with not much on the positive impact of smart phones. They have covered all areas, which allows access to the top-band. They have also tried to give both sides but this is not consistent across all areas therefore limited to the bottom of the top band. A good overall understanding of the scenario has been evidenced.

Exemplar 2

Mark band 2 – 4 marks

Smartphone users might waste money by spending it unnecessarily on things they don't need. After all, phone prices aren't cheap. Also, if they have lots of old smartphones, there is a risk of their stray data still being on one, or a set of photos from one and another set on another, making it harder to access. A cultural issue could be that they live somewhere deprived and should be spending their money on the community. An environmental issue could be the wastefulness of electronics is very harmful to the environment and so is the production. Ethically it could be viewed to be so much when one can barely get by.

Examiner commentary

The candidate has attempted to cover all areas, but some of these are very limited in their depth. There is not a consistent discussion for both sides of the argument throughout and some areas are not expanded. However, smartphone users, cultural and environmental issues have been considered but remain underdeveloped. This restricts it to the mid-band, but there are some good points allowing the middle of this band.

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