OCR
Oxford Cambridge and RSA

## Cambridge NATIONALS LEVEL 1/2

ICT

Combined feedback on the June 2014 Exam Paper

**Unit R001: Understanding computer systems**

CONTENTS

INTRODUCTION

This resource brings together the questions from the June 2014 examined unit (R001), the marking guidance, the examiner's comments and the exemplar answers into one place for easy reference.

The marking guidance and the examiner's comments are taken straight from the Report to Centre for this question paper.

The Question Paper, Mark Scheme and the Report to Centre are available from:

http://www.ocr.org.uk/qualifications/cambridge-nationals-ict-level-1-2-j800-j810-j820/
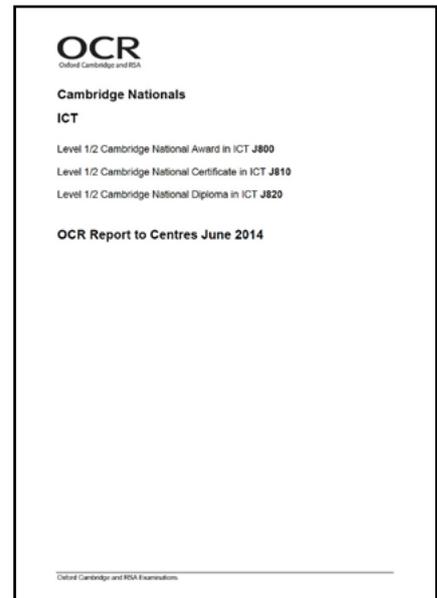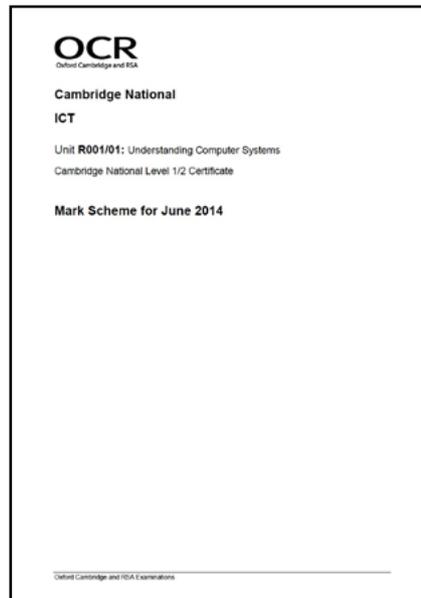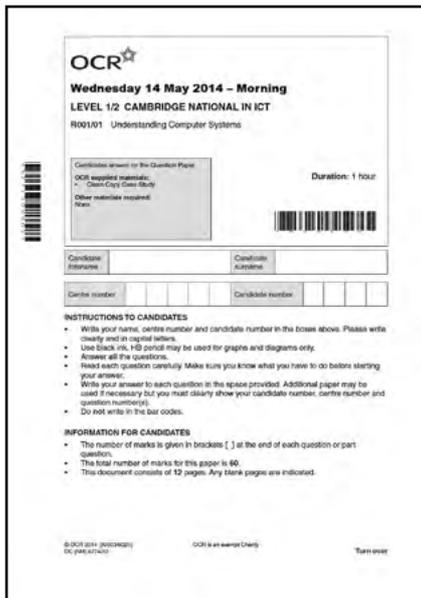
PRE-RELEASE MATERIAL

All questions on the question paper are based on a pre-release Case Study which is issued to centres before the examination. The question paper consists of two sections, each comprising short answer and extended response questions.

The pre-release Case Study can be found here:

http://www.ocr.org.uk/Images/165512-unit-r001-pre-release-case-study-june-2014.pdf
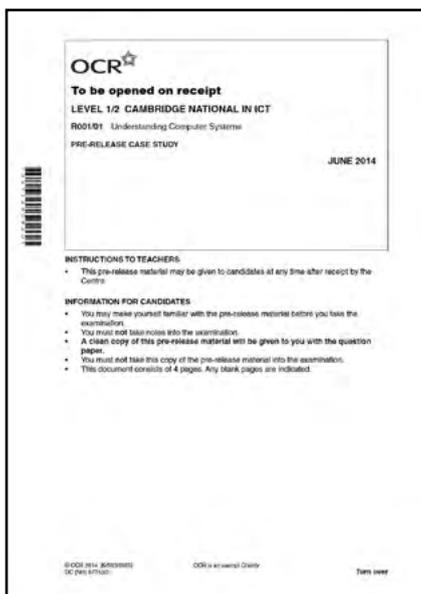
# GENERAL EXAMINER COMMENTS ON THE PAPER

Candidates taking the exam in this session seemed better suited to the level of the paper, with marks being achieved from across the paper and also across all grade boundaries. The responses to the more in-depth questions (Q3, 6a and 7c) suggest that Centres are now aware of how these questions should be answered and are working with candidates to ensure that they are able to provide clearly structured answers which, on occasion, achieve full marks. Such questions will continue to be a feature of this paper and will continue to require the best candidates to give answers which provide well organised and balanced responses.

Centres have clearly also put a lot or work into ensuring that candidates answer questions in context. Indeed, the extent to which candidates answered in context was a marked improvement on previous sessions. This has led to an overall improvement of the performance of the cohort.

Finally, a further feature of candidates' performance for which Centres should be praised is the extent to which candidates worked with command words. Candidates gave short, often one word, answers to questions were they were asked to identify or state, and gave extended answers where they were asked to describe. To continue with this theme, many candidates were also well able to give clear explanations when required. These core skills are central to candidates' ability to do well in this examination.

However, amongst all this praise, there has to be something requiring attention. As detailed below, some candidates are still not reading questions and are giving answers which I am sure they think are superb, but because they are missing the focus of the question, are not achieving marks. As well as the general context of the paper, the questions themselves can give further context of which account needs be taken when answering questions. This context therefore moves the question away from a general application of ICT to one in which some possible, general answers may actually be incorrect within the context of the question itself.

Question 1

SECTION A

The questions in this section are based on scenario 1 in the case study and your background research.

Answer **all** questions.

1 Each Cable Technician is given a smartphone that they use to communicate with customers and Jackie, the Office Controller.

(a) Identify **two** input methods that the technicians can use to enter information onto a smartphone.

1 Stylus (or equivalent) **(1 mark)**

Other example answers:
- Buttons **(1 mark)**
- Keyboard/Keypad/Type **(1 mark)**
- (Download) from the internet **(1 mark)**
- (Transfer) from a computer **(1 mark)**
- Touch/Swipe **(1 mark)**
- Camera **(1 mark)**

2 Voice **(1 mark)**

[2]

(b) Identify **two** output devices that may be found on the technicians' smartphones

1 Display/screen **(1 mark)**

Other example answers:
- Vibration mechanism or equivalent **(1 mark)**
- Light/torch **(1 mark)**

2 Speaker **(1 mark)**

[2]

(c) The technicians can use their smartphones to make phone calls, send text messages and receive their work schedules.

Name **two** other ways the technicians could use their smartphones to help them with their work.

1 Navigation software **(1 mark)** can be used to find their way to addresses **(1 mark)**

Other example answers:
- Word processing software/notes software **(1 mark)** can be used to take notes **(1 mark)** during meetings **(1 mark)** (Max 2 marks)
- Record notes (with the microphone) **(1 mark)** for future use/and the file passed to a secretary for typing up **(1 mark)**
- Video call (or named equivalent) **(1 mark)** to check with colleagues **(1 mark)**
- Calendar **(1 mark)** to check availability **(1 mark)**
- Email **(1 mark)** to send/receive further information about the job **(1 mark)**

2 Access internet **(1 mark)** to find details about customers (candidate may give examples)/other work related use of internet **(1 mark)**

[4]

Mark scheme guidance

1 (a)   Devices or actions are equally acceptable.

1 (b)   Do not accept monitor/VDU. Must be integral to smartphone not something plugged into it, such as headphones.

1 (c)   **FOUR** marks for **TWO** full descriptions of work related uses:

Answer must refer to a **work related use** of **smartphones** and fit the scenario.
Eg
Do not accept "download an app," because this is excluded in the scenario.

If candidate provides an answer that is correct in context and justifies it, two marks can be awarded.

Examiner comments

This question was about the use to which technicians may put their smartphones and assessed candidates via their ability to apply the specific context of the smartphone to their answers. Therefore, general answers about input and output devices were not always acceptable. For example, a headphone is not an output device found on a smartphone, and we did not accept monitor as we considered this to not be applicable to a smartphone.

Part C of this question then asked candidates to describe ways in which using smartphones could help technicians. Whilst most candidates were able to identify the way in which the benefit may accrue, and thereby get one mark, few gave sufficiently clear answers to warrant the expansion marks. For example, candidates sometimes gave answers stating that the technician would use the "internet to find out things". Whilst this was worth one mark, the expansion of how the internet was to be used is clearly not in sufficient depth.

Question 2

2 Changes to work schedules are sent to each technician's smartphone.

(a) Identify **two** factors that will affect how quickly the updated work schedule is received by an individual smartphone.

1 Method/type of connection
eg WiFi, wired, 2G/3G/4G **(1 mark)**

2 Bandwidth **(1 mark)**

Other example answers:
- Number of devices connected at the same time **(1 mark)**
- Obstacles in the way **(1 mark)**
- Range/distance from an aerial **(1 mark)**
- Location **(1 mark)**
- Signal strength **(1 mark)**
- Size of file **(1 mark)**

[2]

(b) Explain **two** benefits to Cable Ties Ltd of distributing updated work schedules by sending them to each technician's smartphone.

1 Update can be sent whilst the technician is out of the office **(1 mark)** and so does not have to wait for the technician to be in the office **(1 mark)**

2 A wireless connection does not require wiring **(1 mark)** and so can be less expensive **(1 mark)**

Other example answers:
- Update can be sent from the office controller's desk **(1 mark)** and so she does not have to find the technician **(1 mark)**
- It can be sent without the technician having to answer/be involved (**1 mark)** so they are not distracted **(1 mark)**
- Improved customer service **(1 mark)** as technician/Cable Ties Ltd is better able to respond **(1 mark)**
- Each technician does not have to be contacted **(1 mark)** so time is saved **(1 mark)**
- Less chance of error **(1 mark)** as technician may have bad handwriting/ mishear the information **(1 mark)**
- Lower cost **(1 mark)** due to no printing/travel **(1 mark)**

[4]

Mark scheme guidance

2 (b)   Up to **4** marks available for **TWO** full explanations.

Answer may refer to the ability to transfer information or the advantage of not having a physical connection.

Only accept answers that are based on the whole system being operational and switched on.

Examiner comments

The second question dealt with sending information to smartphones. A few candidates misinterpreted this question and gave benefits of having the information on the smartphone, rather than having it sent to the smartphone.

For question 2a, some candidates gave answers that basically said "a lot quicker if turned on". There is a clear section in the syllabus which is to do with factors affecting the rate of data transfer and it is to this section that this question referred. Many candidates were able to identify two good factors.

For 2b, acceptable benefits included those to the technician, as well as the office controller.

Question 3

3 Explain how the use of ICT by Cable Ties Ltd increases its efficiency as a business.

Impacts could include:

- The quality of service
- The ability to respond to changes
- The time taken to respond
- The ability to fill all responsibilities
- Economic impacts (efficient use of resources)

Answers may refer to:

- The use of specific software to track bookings
- The use of hardware to communicate with technicians
- The benefits to be gained from contracting technicians without the need for them to visit the office

[8]

Mark scheme guidance

Mark 7 – 8   Candidates may successfully complete the work as a bulleted list, rather than a body of text.

Level Three (7 – 8 marks)

The candidate will have a clear understanding of efficiency and will provide a detailed, well developed explanation which answers the question by clearly linking the use of ICT at Cable Ties with increases in efficiency.

The candidate will explain a range of impacts of ICT in order to increase efficiency.

Subject specific terminology will be used correctly and appropriately.

Level Two (4 – 6 marks)

Candidates will have some understanding of efficiency and will **explain** one or more impacts on efficiency in some detail.

Or

Candidates will have a good understanding of efficiency and will **describe** one or more impact in good detail.

At the bottom end of the mark band, the answer may not be presented within the context of Cable Ties Ltd.

In most cases, identifying a use of ICT by Cable Ties and describing the impact on how well the business operates will be sufficient.

Specialist terms will be used appropriately and, for the most part, correctly.

Level One (1 – 3 marks)

The answer will be a point(s) or a very weak, undeveloped description. Answer may not refer to examples from the scenario.

There may be no use of specialist terms.

Zero marks

Answers with no valid content.

Examiner comments

This question was the first of three that required extended answers from candidates. Candidates were asked to explain the impact of the use of ICT by Cable Ties on the overall efficiency of the organisation. Some candidates chose to interpret this question as one focussed on ecology and, in the main, gave answers which were largely lacking in suitable points. The vast majority of candidates were able to describe the impact of ICT on efficiency and thereby achieve marks from level 2.

Question 4

4 Cable Ties Ltd requires each technician to sign an Acceptable Use Policy (AUP) before they are issued with their smartphone.

The AUP states that technicians are not allowed to download any Apps other than those included with the smartphone.

Explain **two** reasons why Cable Ties Ltd would **not** want technicians to download any other Apps to their smartphones.

1 Security **(1 mark)** this is the worry that the App may give access to information that is on the phone/may allow customers to be identified **(1 mark)**

Other example answers:
- Games might be downloaded **(1 mark)** which would stop the technician working **(1 mark)**
- Apps may use memory **(1 mark)** which will slow down the performance of the smartphone **(1 mark)**
- Quality of work may decline **(1 mark)** so the customer is dissatisfied **(1 mark)**
- Some apps cost money **(1 mark)** and so Cable Ties will be charged **(1 mark)**

2 A virus could be downloaded **(1 mark)** which could infect the smartphone/other impact **(1 mark)**

[4]

Mark scheme guidance

Up to **FOUR** marks for **TWO** full explanations:

One mark must be awarded for security or vague answer about security.

One mark for what might happen and one mark for reason or consequence.

Examiner comments

This was a technical question that required candidates to be aware of the potential impact of Apps on the efficiency of smartphones. In some cases, answers given were very vague indeed and, for example, attempted to describe problems caused by downloading apps in very general terms, such as "mess up". In a paper that assesses a candidate's understanding of ICT, it was felt that candidates needed to use more technical terms and so such vague answers were generally not awarded highly.

Question 5

5 Cable Ties Ltd collect and holds personal information about customers.

(a) One of the technicians has sold personal information about customers to an insurance company.

(i) Identify **three** items of data that could be sold.

1 Customer name **(1 mark)**

Other example answers:
- Date of birth **(1 mark)**
- Gender **(1 mark)**
- Marital status **(1 mark)**
- Model of television owned/bought **(1 mark)**
- Number of TVs bought in the last year **(1 mark)**

2 Telephone number **(1 mark)**

3 Address **(1 mark)**

[3]

(ii) State **one** action that Cable Ties Ltd could take against a technician that has sold personal information about customers.

Give a warning **(1 mark)**

Other example answers:
- Sack the technician **(1 mark)**
- Take action that is on the AUP **(1 mark)**

Other actions may involve external groups eg (they could) report the technician to the Police **(1 mark)**

[1]

(b) Cable Ties Ltd encrypts all personal data that it holds.

Explain why Cable Ties Ltd encrypts the personal date that it holds.

Encryption protects data from access **(1 mark)** by a third party/a hacker **(1 mark)**

Other example answers:
- Data needs to be protected from unwanted access **(1 mark)** because the DPA states this is required **(1 mark)**
- So that people cannot see the date **(1 mark)** unless they have the (decryption) key **(1 mark)**
- If the data is stolen **(1 mark)** it cannot be seen or accessed **(1 mark)**

[2]

Mark scheme guidance

5 (ai)   Do not accept categories of data eg:
'Contact details' is too vague.
'Financial details' is too vague.

However, 'emails details' is just acceptable.

Do not accept
- Salary
- Medical details.

5 (aii) Must be actionable by a business, eg fines cannot be applied by the business.

5 (b)   Up to **TWO** marks available for a full explanation.

Answer must address why encryption occurs, rather than what encryption is.

Do not accept 'no-one can see it' for a mark.

Examiner comments

Tested candidates' understanding of how data may be misused and protected. In answer to the first part of the question, candidates were required to identify three items of personal data that a technician working for Cable Ties could sell. Whilst many candidates gave three good answers, it was felt that answers which relied on the answer "details" were too vague - "contact details", for example, was too vague, as was "email details".

Similarly, for question 5b candidates needed to be clear in their description of why Cable Ties encrypts data. Answers which stated that this was done so that "no one could access the data", were incorrect - clearly, Cable Ties staff need to be able to access the data.

Virtually all candidates gave good answers for question 5aii.

Question 6

SECTION B

The questions in this section are based on scenario 2 in the case study and your background research.

Answer all questions.

6 Jackie, the office controller, would like to monitor the amount of time Marcus spends on his visits. She is going to use spreadsheet software for this purpose.

(a) Describe features of spreadsheet sotftware that make it suitable for Jackie to use to monitor the amount of time Marcus spends on his visits.

- SUM to add up the total time taken

- FORMATTING/CONDITIONAL FORMATTING to identify issues, highlight information

- GRAPHING to present timings for comparison

There is a range of suitable answers that could be described.

Accept answers that could be used to monitor via observation or calculation.

It is possible to describe the feature by describing its use.

[6]

(b) Describe **one** method, other than using spreadsheet software that could be used to monitor the amount of time Marcus spends on his visits.

Start and end times could be entered onto diary software **(1 mark)** and shown as

blocks **(1 mark)**

[2]

Other example answers:

- Start and end times could be stored on a database **(1 mark)** and the difference calculated in a report/the times shown on a report **(1 mark)**
- GPS tracking of smartphone/van **(1 mark)** with time and location calculated **(1 mark)**
- Observation **(1 mark)** and note taking **(1 mark)**
- Create a table **(1 mark)** and enter data/in a word processor **(1 mark)**

Mark scheme guidance

6 (a)

Level Three (5 – 6 marks)

Candidate **identifies** AND **describes** at least **TWO** suitable features and links these to monitoring Marcus.

Level Two (3 – 4 marks)

Candidate **identifies** AND **describes** at least **ONE** suitable feature that could be used to monitor Marcus.

Or

Candidate **identifies** a range of suitable features that could be used to monitor Marcus.

At the top end of the mark band the answer must be clearly in context.

Level One (1 – 2 marks)

Candidate identifies suitable features, but provides no description or link to monitoring Marcus.

Or

Candidate describes a feature in general terms.

Zero marks

Answers with no valid content.

Examiner comments

Section B developed the scenario from that established in Section A. The specific focus was the work of a technician, Marcus.

Question 6a

Proved to be something of a challenge to some candidates. The question required candidates to describe features of spreadsheet software. In many cases, candidates described spreadsheets themselves, with a small minority taking that description to its logical extreme.

Where candidates correctly identified the question as being about features and how they can be used for a specific focus, there were good answers, with most of this group achieving MB3. However, where candidates failed to appreciate the context or the requirement for a description, marks suffered accordingly.

Question 7(a)

7 Jackie wants to collect feedback from customers. She is not sure whether to ask customers to fill in a paper-based form while the technician is at their premises or to ask them to give feedback online after the technician's visit.

(a) Explain the advantages **and** disadvantages of using an online form rather than collecting feedback on paper at the visit.

An online form can be completed once Marcus has left and so he does not have to wait around or influence the responses and comments given.

Marcus can influence/intimidate the customers to write a good review. Answers on an online form may be more honest.

Answers on a paper based form are written immediately whilst the experience is fresh in the customer's mind.

Customers may fail to complete an online form later.

Online forms can be constructed to include validation checks.

Online forms can contain features that speed up/ease data entry.

[8]

Mark scheme guidance

Level Three (7 – 8 marks)

The candidate will provide a well-developed explanation which will answer the question. The answer will balance both advantages and disadvantages of using an online form rather than a paper based form.

The answer will be presented within the context of Cable Ties Ltd.

Subject terminology will be used correctly and appropriately.

Level Two (4 – 6 marks)

Candidates will describe both advantages and disadvantages of using an online form rather than a paper based form

Or

Candidate will explain either the advantages OR disadvantages of using an online form rather than a paper based form.

At the top end of the mark band, the answer will be presented within the context of Cable Ties Ltd.

There will be some use of subject specific terminology.

Level One (1 – 3 marks)

The answer will be a point(s) or a weak, undeveloped description. Answer may not refer to examples from the scenario.

There will be no use of specialist terms.

Zero marks

Answers with no valid content.

Examiner comments

Focussed on feedback, with question 7a being an in-depth comparison of online and paper based surveys. The answers to this question showed a really good level of preparation, with many candidates giving balanced descriptions of positive and negative impacts.

Question 7 (b) and (c)

7 **(b)** Each visit is given a job reference number that customers must use on the feedback form.

Explain why a job reference number is used.

To link the feedback **(1 mark)** and the job/technician **(1 mark)**

Other example answers:
- The number is unique **(1 mark)** so that the feedback form can be linked **(1 mark)** to the actual job
- So that the office controller knows which job/technician **(1 mark)** the feedback is for **(1 mark)**

[2]

(c) Identify **one** input device that would allow customers to input text or numbers into a text field on an online feedback form.

Keyboard **(1 mark)**

[1]

Other example answers:
- Mouse/touchpad/tracker ball **(1 mark)**
- Microphone **(1 mark)**
- Sip and puff device **(1 mark)**
- Head pointer **(1 mark)**
- Graphics tablet **(1 mark)**
- Touchscreen **(1 mark)**

Mark scheme guidance

7 (b) **TWO** marks available for a full explanation

This question is about why a number is used on a form, rather than why a number is used at all.

Examiner comments

Question 7b was another technical question which required candidates to understand the use of a reference number in the context of a feedback form. In this case, few candidates appreciated that the reference linked the feedback with the technician or job, and many stated that the link was between the customer and the job.

Question 8

8 One of the technicians has noticed that he has had a negative reveiw from a customer following one of his visits. He has decided to use the details included on the feedback form to contact the customer to discuss their review.

Explain **two** reasons why it would be morally wrong for the technician to do this.

1. Feedback has been gathered to try to help the business **(1 mark)** and the customer does not expect to have to justify their comment/face aggression **(1 mark)**

2. The customer does not expect it **(1 mark)** because there was no indication that their details would be passed on **(1 mark)**

[4]

Other example answers:

- Personal contact details are private **(1 mark)** and should only be used for the purpose for which they were collected/Marcus has accessed details which should have been kept secure **(1 mark)**
- It is a form of harassment **(1 mark)** and the customer will be upset/intimidated/scared **(1 mark)**

Mark scheme guidance

Up to **FOUR** marks for **TWO** paired answers.

Do not award a mark for mentioning the DPA as this is a legal issue.

Examiner comments

This question proved to be quite challenging, with many candidates failing to appreciate that as soon as they referred to a legal impact of the action, they were effectively negating anything they said.

Question 9

9 Cable Ties Ltd regularly archives data that is held on its computer system.

(a) State **one** reason why Cable Ties Ltd archives data.

To store old information **(1 mark)**

> **Other example answers:**
> - To free up space **(1 mark)**
> - Separate historical data **(1 mark)**
> - Information is no longer needed daily **(1 mark)**
> - To improve efficiency **(1 mark)**

[1]

(b) Identify **one** possible problem to Cable Ties Ltd that may be caused by archiving data.

Data needs to be uncompressed **(1 mark)**

> **Other example answers:**
> - Difficult to find files **(1 mark)**
> - Storage format may become redundant **(1 mark)**
> - Data not immediately available **(1 mark)**

[1]

(c) All archived data needs to be held on a storage medium.

(i) Identify **one** medium that would be suitable for Cable Ties Ltd to archive data.

Magnetic tape **(1 mark)**

> **Other example answers:**
> - CD **(1 mark)**
> - DVD **(1 mark)**
> - (External) hard drive **(1 mark)**
> - Cloud **(1 mark)**
> - SSD **(1 mark)**
> - USB stick **(1 mark)**

[1]

(ii) Explain why this medium would be suitable for this purpose.

The data held may need to be accessed in the future **(1 mark)** and this allows

easy access **(1 mark)**

> **Other example answers:**
> - Cable Ties will need to store a lot of information **(1 mark)** and these devices are quite cheap for the amount of data it can hold **(1 mark)**
> - The data needs to be reliably stored **(1 mark)** and these devices are less likely to corrupt **(1 mark)**

[2]

Mark scheme guidance

9 (a)   Do not accept answers about backup/second copy.

9 (b)   Do not accept damage.

9 (ci)   ONE mark for a suitable medium
         Do not accept USB on its own.

9 (cii) This answer is dependent on 9 (ci).
         Do not accept cheap/quite cheap without qualifying statement
         eg: cheaper than…

Examiner comments

Parts a and b of question 9 were equally challenging to some candidates, who seemed to be confused between back up and archiving. As a result, answers to part a were generally wrong, whilst for part b, candidates gave general answers that were applicable to any form of data storage, rather than archiving.

For part c(i) and c(ii), the mark scheme accepted virtually any form of storage. However, whilst the mark scheme was wide, it must be stressed that this is an up-to-date qualification and answers that refer to devices and techniques that are no longer in general use are unlikely to be accepted in future.

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