

# INFORMATION AND COMMUNICATION TECHNOLOGY

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Paper 0417/12  
Written Paper

## Key messages

Candidates who performed well in this paper gave answers that expanded upon points made. They also gave a justification of the statement and discussed the arguments for and against.

Candidates must give the generic names for software rather than the brand or trade name. It is clearly stated on the front page of the examination paper 'No marks will be awarded for using brand names of software packages or hardware.'

Occasionally candidates may need to expand their answers onto other parts of the examination paper or onto extra sheets. The paper is marked electronically and if the candidate writes onto other parts of the examination paper rather than using extra sheets, the candidate must clearly indicate in the original answer space where the expanded or replacement answer is to be found.

## General comments

The paper gave all candidates an opportunity to demonstrate their knowledge and understanding of ICT using a wide variety of topics. Most candidates attempted all of the questions.

A few candidates did not read the question thoroughly before they started to answer it and therefore producing answers that did not fully answer the question. Candidates that read the question thoroughly then plan the answer generally tend to produce more thorough answers. Candidates were able to answer recall questions well but did not do so well at answering the longer type questions. There was a reduction in the amount of correcting fluid used in the examination.

Frequently candidates ignored the instructions given in the question and gave more answers than required. The examiners will mark the first answer written or in the case of questions specifying the number of answers, examiners will mark the first answers up to the number specified in the question.

Those candidates that used a line down the middle of the answer space and listed advantages and disadvantages in separate sections when answering **Questions 10(a), 12(a) and 18** produced many repeated answers. This method of answering the questions can result in missed points as comparisons are difficult.

## Comments on specific questions

### **Question 1**

This was a straightforward question with many candidates answering the question correctly. A smaller number of candidates thought the internet was a WLAN. Most candidates were able to correctly answer the first and last points.

## Question 2

Most candidates made an attempt at this question. The vast majority gave all four correct ticks with only a small minority giving compiler as applications software.

## Question 3

The vast majority of students were able to answer this question and achieved at least one mark. In questions where the answers are numbered it is important to only give one answer per line as the first answer in a line is marked.

## Question 4

Most candidates were able to achieve marks for stating that a router received data packets or mentioned IP address and very occasionally both. The concept of routing tables was rarely mentioned. This topic had been set previously and there was an increase in the number of candidates that understood the operation of a router. Better candidates clearly described the use of the routing table and highlighted the way the IP address is used to work out the best route.

## Question 5

Most candidates made an attempt at this question and achieved at least one mark, generally for stating that a virus was a piece of software or programming code.

Those candidates that went on to achieve the second mark did so for usually mentioning replication or what a virus was. The question asked candidates to explain what a virus was; some candidates answered what the effect of a virus in a computer was.

## Question 6

Most candidates made an attempt at this question and produced good marks. Some candidates circled only two answers rather than the three asked for.

## Question 7

The majority of candidates attempted this question and it was quite well answered.

- (a) This topic had been set previously; candidates gave more accurate answers than has been seen previously. Most candidates answered the question using VLOOKUP. The most common error was the omission of Products! or using Products.csv or Products.xlsx.
- (b) Fewer candidates attempted this part of the question than part (a). The vast majority of candidates identified the correct range or column. Many candidates then described the selection of currency but some candidates did not go on to explain how to select the unit of currency.

In this type of question, it is very important to give answers that have clarity and precision, so that someone else reading the answer could easily carry out the task. The question related to a spreadsheet although some candidates mixed this up with a database and answered accordingly. Questions that ask candidates to 'explain how..' requires them to use words like 'select' and 'click on' rather than giving general statements.

## Question 8

Most candidates attempted this question.

- (a) Most candidates achieved all three marks. Those that didn't, gave correct answers for parts (ii) and (iii) rather than part (i).
- (b) Most candidates attempted this part of the question. Most candidates achieved at least one mark for their answer. The most popular correct answer was usually for the safety issue. Where candidates achieved a second mark it was usually for saying that drones can go where people cannot.

Some candidates did not provide answers to best suit the given scenario.

### Question 9

Many candidates made an attempt at this question achieving at least one mark. This type of question links with the practical question paper.

The most common correctly identified mistake was the lack of a closing tag for the table. Some candidates stated that there were additional spaces in the code and/or the need for units in defining the width of an image. A number of candidates recognised that there was a mistake in row 8 but not the one that was actually a mistake. A few simply wrote the whole line that contained the mistake, without any indication of what was incorrect.

### Question 10

This question as a whole was fairly well answered with most candidates achieving at least four marks.

- (a) This question was a compare and contrast question about travel. The answers given should have related to similarities between the two systems as well as differences. Many candidates managed to give differences, but few wrote down similarities.

Candidates wrote more into the answer than was given in the question, for example they referred to magnetic stripes which were not given in the question. A smart card is a contactless card. Some candidates wrote about other aspects of the transport rather than the use of smart cards, therefore not reading the question carefully. This type of question allows candidates to expand on the points made to provide more detailed answers.

- (b) Most candidates answered this question. Many candidates gave good answers relating to sensors but there were a number of responses of 'pollution sensors'. As with some of the other questions some candidates gave more than one answer to this question; the first answer given is the only one that is marked.
- (c) Most candidates answered this question, achieving at least one mark. Some answers lacked precision. Several candidates still seem to think that sensors do the computer processing required. The question related to computer processing rather than the conversion of analogue data to digital, which was the answer to part (d).
- (d) Most candidates answered this question and most achieved at least one mark, for mainly writing that computers work in digital. Most candidates showed some understanding of the process.

### Question 11

Most candidates answered this question, achieving at least three marks. This question was a new style of question for this topic and was well answered. Most candidates positioned 'Design' correctly and most then going on to put the other three in the correct order. A number swapped the 'Implementation' and 'Documentation' stages. A few candidates, however, did not use the items given replacing them with four stages of their own.

### Question 12

Most candidates answered this question.

- (a) This topic had been set previously and even though many candidates made a very good effort at answering it, few candidates achieved higher marks.

Most candidates knew about backup systems with the other common answer being duplication of data entry. There were occasional good answers relating to expense, training staff gradually and the fact that direct changeover would have produced a system which had been thoroughly tested prior to implementation. As with many questions of this type many candidates did not expand on the points made to sufficient depth. A few candidates confused pilot running with parallel running and one or two chose this as the method to use, despite it not being one of the options given. Better responses identified advantages and disadvantages using clearly written sentences that left no ambiguity as to what was being stated.

The best responses gave reasons for their choice of method in relation to the school, demonstrating the ability to apply their knowledge to the scenario given. A large number of candidates answered referring to businesses, rather than relating it to the given scenario.

- (b) Most candidates answered this question. Some candidates realised that a computerised system would produce fewer errors. However as with **Question 8(b)** there were a lot of general responses rather than linking the advantage to the given scenario.

### Question 13

Most candidates answered this question. This topic had been set previously. Candidates understood that the 3D printing process involved the 3D model being printed layer by layer using a number of raw materials like resin or plastics. There was some understanding that some sort of design/model would be needed and that this would be based on a scan/measurements. The best responses described the software slicing the 3-D model into layers; the layers are then printed layer by layer in resin which then binds together.

### Question 14

Most candidates answered this question.

- (a) This topic has been set many times in the past; many candidates do not seem to understand the concept of encryption. However, a number of candidates did achieve higher marks. Most candidates know about the scrambling of data and many seem to realise you need keys to encrypt the data as well as decrypt it. As with previous questions there was a lack of precision in the answers given therefore not achieving all of the available marks. Better responses clearly stated the process of scrambling the data to make it meaningless to hackers, and how encryption and decryption keys are used to protect, e.g. sensitive data.
- (b) This was well answered in the main; some candidates needed more depth in their answers i.e. strong password instead of just stating password.

### Question 15

Most candidates appeared to read the question as about GPS and answered accordingly, giving very good answers but not answers relating to the question. Some candidates understood GIS, some of these candidates needed more depth in their answers.

### Question 16

This topic has been set previously and it was pleasing to see some very good answers.

- (a) Most candidates identified at least one audience and were able to describe their requirements. Where candidates did not achieve good marks, it was usually because they did not provide examples as requested by the question. Better responses identified two age groups and described how the presentation would be adjusted for these audiences. Some candidates did not relate their answers to the scenario set in the question.
- (b) Many candidates answered the question by relating it to copyright or terms and conditions rather than looking for physical ways of prevention. Some candidates gave dongles/unique product key/pen drives but very few candidates provided any depth in their answers.

### Question 17

This question was well answered by most candidates.

- (a) As with previous questions some candidates did not provide sufficient detail to gain all of the marks. Many referred to health issues which were clearly not related to RSI such as eye strain.
- (b) This part was better answered than part (a). Ergonomic keyboards and regular breaks were the most common answers. Some candidates gave more than two answers, despite the wording of the question.

### Question 18

It was good to see more candidates achieving marks on the level of response question than in previous papers.

Where candidates did not do so well, it was not due to the understanding of the use of smartphones but due to the application of the benefits and drawbacks of smartphones in the scenario. There were some good responses seen. Better responses were able to expand on the points made, giving good examples.

In this type of question, the better responses are from candidates that can expand upon the points made as well as relate it back to the scenario.

# INFORMATION AND COMMUNICATION TECHNOLOGY

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Paper 0417/21  
Practical Test A

## Key messages

Candidate must enter their details on their work before printing. Work that cannot be attributed to the candidate will not be marked.

Data to be keyed in by the candidate, which is displayed in bold on the exam paper, should follow exactly what is specified in the paper in terms of spelling, capitalisation and punctuation.

Candidates need to be able to identify and apply accurately serif and sans-serif fonts where specified. Common examples of these two font families should be known by candidates.

## General comments

All tasks in the paper allowed candidates to demonstrate a full range of practical skills. Well-prepared candidates who applied their skills accurately achieved high marks. Lower marks often resulted from omission of tasks such as the database reports.

Candidate's work **should not** be stapled. A hole-punch to tie the work together with string is acceptable but often the holes are through some of the evidence the examiners need to see to be able to award marks.

Each candidate's work must be returned to Cambridge inside the original hard-copy Assessment Record Folder (ARF) that has been provided to the centre by Cambridge, photocopies should not be used.

Please make sure a Supervisors Report Folder is completed and included with the learners work as this can help examiners know the software that has been used and any issues that were experienced during the practical test.

## Comments on specific questions

### **Task 1 – Evidence Document**

Candidates were tasked with creating an evidence document, which is then used in subsequent tasks to capture evidence for assessment. All candidates should ensure that they print this evidence document at the end of the practical test, even if they have not completed all of the tasks.

### **Task 2 – Document**

#### **Question 1**

Most candidates saved the file with the given name, but a significant number did not change the file type to the native format of the software they were using.

#### **Questions 2–3**

Most candidates provided screenshot evidence of their page setup; the more common omission was the evidence of A4 paper size.

#### **Question 4**

Header and footer details were usually well done. Alignment to margins was a common error, especially for the file name and its path.

#### **Question 5**

Styles had been defined and applied to the whole source document. The candidate was required to identify the two styles which did not match the House style specifications and to amend only these to match the given House style specification. Since these were already applied, there should have been little disturbance of the document when they were amended. A common error in redefining the ARC-Body style was to set both a left indent to the paragraph and the first line to indent by 1 cm.

#### **Question 6**

The altered page layout to two columns was generally done well, although sometimes all the text was set to two columns and occasionally inches were used instead of metric measurements.

#### **Questions 7–11**

The image was usually cropped correctly and placed accurately with text wrapped. Common errors lay in alignment and resizing with the measurement of 6 cms wide applied instead of the required 6.5 cms wide.

#### **Questions 12–15**

The formatting and display of the table were generally well executed.

#### **Questions 16–17**

If used, the spell check picked up and corrected the two deliberate spelling errors. Proofreading and document layout were generally accurately carried out.

#### **Task 3 – Database**

##### **Question 18**

This was often answered as a description of features of the two types of database, rather than a discussion of relative merits of using either one. Even candidates who had some idea of how the relational database works, were often confused about exactly how the relationship works. Some correctly identified the additional expertise required to set up a relational database.

##### **Question 19**

Importing the file as a table did not present a problem. The display of the Boolean field was assessed in the report.

##### **Question 20**

Many candidates were able to identify one of the examples correctly. Few could give reasons for the examples which did not include validation rules, but there were good attempts to answer each one of the examples.

##### **Question 21**

This file was successfully imported into a new table by most candidates. The date was not always imported or displayed as specified.

##### **Questions 22–24**

A suitable data entry form was created by most candidates and adding user-friendly features was attempted by many. These included drop-down menus and radio buttons for selection as well as navigation buttons and titles, meaningful field headings or user notes. The new record was added to this form, but the data entry was not always accurate.

### **Question 25**

The file was usually imported without error into a new table.

### **Question 26**

Evidence of the relationship types was required at this step. Some candidates did not show evidence of the relationship type.

### **Questions 27–28**

For those candidates who produced the reports, these were generally successfully executed and presented. Errors usually included date import or format errors, fields not presented in the specified order, full display of all data, spelling of the title and placement of the calculated field. The second report was well done by most, with similar errors to the first report.

### **Task 4 – Mail Merge**

#### **Questions 29–31**

The mail merge was generally well done. Spacing and punctuation inconsistencies were errors regularly seen, as was the selection of recipients based on two criteria.

### **Task 5 – Presentation**

#### **Questions 32–38**

While most candidates created the master slide with fairly basic features, a few showed real thought in matching features relevant to the context. Successfully demoting text to a second level was not seen very frequently. Generally, the task was successfully executed.

### **Task 6 – Printing the Evidence Document**

#### **Question 39**

The evidence document was almost always printed and provided such evidence as was required through the paper.



# INFORMATION AND COMMUNICATION TECHNOLOGY

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Paper 0417/31  
Practical Test B

## Key messages

For this examination the main issues to note are:

- Candidates need a better understanding of what is required in response to an evaluation question. When evaluating the web page, candidates should present both positive and negative factors and not simply provide a description of the features.
- Candidates need a better understanding of the relevance of the order of placing stylesheets in the web page head section.
- Candidates must make sure that all spreadsheet formulae are fully visible and in a font size that can be easily read without the need to use magnification devices when printed.

## General comments

Candidate's work **should not** be stapled. A hole-punch to tie the work together with string is acceptable but often the holes are through some of the evidence the examiners need to see to be able to award marks.

Each candidate's work must be returned to Cambridge inside the original hard-copy Assessment Record Folder (ARF) that has been provided to the centre by Cambridge, photocopies should not be used.

Please make sure a Supervisors Report Folder is completed and included with the candidates work as this can help examiners know the software that has been used and any issues that were experienced during the practical test.

## Comments on specific questions

### Question 1

A significant number of candidates simply described what the web page would do rather than analysing positive and negative features. The most common answers seen referred to the font size being too small and the need for colour to be included. Some candidates commented on the complexity of some of the colour names and that the sound would help with pronunciation of the colour name.

### Question 2

Most candidates attempted this question, and many achieved full marks. Some used the correct terminology but confused the different web development layers and did not achieve full marks. Candidates' responses varied centre by centre. Some candidates were not familiar with this terminology and described the HTML code used in create each of the features described in the question.

### Question 3

Where candidates had provided the evidence in question 5, most had resized the image to the correct size and saved it with the correct file name. A small number of candidates had used the file name Lilac1.jpg with the software adding the extension resulting in the file name Lilac1.jpg.jpg

#### Question 4

Where candidates had provided the evidence in question 5, most had saved the image with the correct file name and with the correct dimensions of 271 × 896. Some candidates had an incorrect dimension of 272 × 896. Some candidates had resized the original image to the specified size, but not cropped the right and left of the image. A small number of candidates had used the file name Lilac2.jpg with the software adding the extension resulting in the file name Lilac2.jpg.jpg

#### Question 5

Most candidates were able to provide a screenshot showing the folder name and correct files, but few included the image dimensions. A few candidates provided a screenshot of the folder only and not the contents.

#### Question 6

Most candidates who showed evidence that their web page had structured it as specified in the question. A small number of candidates included the reference letters used in the question paper, which the question paper stated must not appear in the web page, the reference letters in the question paper are used to help candidates identify the cells.

#### Question 7

Most candidates added the text to the correct cell. Some candidates had typographical errors in the text, the most common of which was to use capital letters for trees and shrubs. A few candidates did not set this text as style h1 or overwrote the style with an auto class style created by the editor software.

#### Question 8

Most candidates added the text to the correct cells. Some candidates had typographical errors in the text, the most common of which was the spelling of Camellia and Forsythia. A few candidates did not set this text as style h2 or overwrote the style with an auto class style created by the editor software.

#### Question 9

Most candidates placed the correct images in the correct cells and correctly resized the images in the markup. Some candidates did not resize the Lilac2.jpg image.

#### Question 10

Most candidates placed the text from the specified file in the correct cell. A few candidates did not set this text as style h3 or overwrote the style with an auto class style created by the editor software. A small number of candidates did not replace the <> around the text which resulted in their name and details not displaying in the browser.

#### Question 11

This question was completed as instructed by most candidates. Some candidates did not add the hyperlink to only the word 'link'. A small number of candidates did not use the correct syntax to add the subject line and some had typographical errors in the email address.

#### Question 12

Many candidates included appropriate text to be displayed if the image was not available for the 4 images in the first column. A high number of candidates did not include this for the lilac image.

#### Question 13

This question was completed as instructed by most candidates.

#### Question 14

Some candidates did not create a new stylesheet and attempted to amend the stylesheet provided. Where candidates had created a new stylesheet, most had named it as instructed in the question. Most candidates included their name and details as a comment; however some placed this at the top of the stylesheet.

Most candidates included the background image correctly, but some did not position it as specified in the question. Few candidates were successful in setting all table borders to be visible in the stylesheet; many only applied the instruction to the table and not the table cells.

When attaching the stylesheet to the web page, few placed the stylesheet where it should be placed to make sure it had a higher priority than the provided stylesheet.

When displaying the web page in the browser, some candidates cropped the screenshot so the address bar was not fully visible. Some of the screenshots had been resized and were so small that it was not possible to read the text. Most candidates did display the whole page or provided additional screenshots so that all the web page could be seen.

Most candidates provided printed evidence of the html source. A few candidates provided a link to the html or a screenshot of the file icon which resulted in no marks being awarded.

Most candidates provided evidence of a stylesheet.

#### Question 15

This question was completed as instructed by most candidates. A few candidates did not align the header and footer as specified.

#### Question 16

The aligning of text and merging of cells in rows 1 and 2 was completed with accuracy by most candidates although some did not enter the text with 100 per cent accuracy; the most common errors being the misspelling of Glorious and capitalisation of trees and shrubs. Many candidates edited the height of row 3. Many candidates did not apply bold to the text in row 4. Candidates need to examine the spreadsheet layout provided in the question and match their product to that. Most candidates saved the spreadsheet as specified in the question.

#### Question 17

This question was completed as instructed by most candidates. A small number of candidates included additional cells in the screenshot and some did not make sure that all cell contents were fully visible.

#### Question 18

Most candidates who provided evidence of the formula printout completed this question as instructed. Some candidates erroneously used ranges rather than single cell references.

#### Question 19

Most candidates were able to enter a look up formula correctly. Some candidates did not enter a function to make sure error messages were not displayed with many deleting the formula from cells that would have displayed an error message. Some candidates erroneously used ranges rather than single cell references.

#### Question 20

Most candidates completed this question as specified.

#### Question 21

Most candidates completed this question as specified.

### Question 22

Most candidates completed this question as specified. Some candidates did not include row and column headings and some did not widen the columns to make sure the contents of the cells were fully visible. Some candidates did expand the columns but printed on a single landscape page so the formulae became so small it was not possible to view the formulae even using magnification devices.

### Question 23

Most candidates completed this question as specified. Some candidates did not include the evergreen criteria in selecting the data and some included extra columns in the extract printout.

Almost all candidates printed the Evidence Document.