INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/12
Written Paper

Key messages

To do well in this paper, it is important for candidates to take a little time at the start of the examination to read the questions thoroughly. Candidates that read the questions thoroughly and plan their answers result in more thorough answers being given. Better candidates use specific and detailed language when replying to 'describe' and 'write down steps' type questions and give a justification of their statements and discuss the arguments for and against. Writing conclusions gives one mark in the question. However, many conclusions are simply a repeat of what they have produced in their answer. Conclusions must be reasoned and detailed to gain the mark.

Candidates should be clear in the answer they give and produce detailed answers. Candidates must give the generic names for software rather than the brand name; there has been an increase in the number of candidates using brand names. Please note and remind candidates that it is stated on the front page of the examination paper that: 'No marks will be awarded for using brand names of software packages or hardware.'

Occasionally candidates may need to expand their answers on to other parts of the examination paper or onto extra sheets. If candidates need to expand their answers on to other parts of the question paper or onto extra sheets, they should clearly identify in the original answer space where the extra part can 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 were able to complete the paper in the allotted time, and most were able to make an attempt at all the questions.

When a question indicates a specific number of answers, candidates should only write one answer in each allocated space as only one is marked for each space. Any question inviting the candidate to describe, discuss, explain advantages or disadvantages requires specific points relevant to the questions asked as well as a detailed answer.

A few candidates used tables or a line down the middle of the answer to list advantages and disadvantages in separate sections when answering the discussion questions, producing repeated or shortened answers. This method of answering a question can result in missed points as comparisons are difficult.

Comments on specific questions

Question 1

Generally well answered with a lot of candidates gaining at least one of the marks. Some candidates need to understand that an actuator is an external device.

Question 2

Some of the answers were excellent and stated that ergonomic devices were required. Some candidates' answers lacked detail and gave generic answers like mouse and keyboard. There are also lots of answers

that still include comfortable chairs rather than ergonomic chairs. Most candidates were able to achieve two marks for this question.

Question 3

This was generally well answered with candidates achieving half marks at least.

(a) Many candidates were able to gain at least three marks on this question. As with other questions in this paper some answers lacked detail, for example some candidates mentioned colour instead of highlighting. There is a worrying trend regarding text wrap with candidates using the term image wrap and others explaining that the image was wrapped around the text.

There were several candidates that placed more than one feature on a line in which case the subsequent features on the line were ignored. Some tried to add fifth or sixth points but these were likewise ignored.

(b) Generally, this question was well answered, and candidates had so many ways to gain marks. Many candidates gave more than the six points available and as it was an open question all points could be noted to a maximum of six. As with previous questions those candidates that used the technical ICT terms easily gained marks, however there were several answers that lacked detail. For example, “transfer the image” is too vague an answer. To help candidates gain good marks on this type of question it does help to work in a logical way to explain how the image was moved and displayed. Better responses gave a clear step-by-step process which opened up separate mark points. There were several instances of the use of proprietary names such as ‘Word’ which will never receive credit.

(c) This question asked the candidate to name two other sources apart from digital camera. There were lots of repeats in the answers to this question as candidates answered with different types of digital cameras or different devices. For those candidates that wrote down different sources the question was answered well.

(d) Many candidates were able to gain over half marks for this question. This question proved challenging for some candidates. Most candidates were able to identify that a gif is a file type that stores still or moving images and that jpg is a file type that uses lossy compression.

(e) Many candidates gained at least half marks on this question by giving an example of what could be put in the header and then saying that it would appear on every page. Candidates knew what a header was but had difficulty explaining why they were needed. A general misconception was that a header was entered on the top of the document instead of the top of the page. Some answers lacked detail with responses like ‘the header saves time’ instead of ‘typing the header saves time for the author typing out the data on each page’.

Question 4

(a) Some candidates lacked detail and understanding in their answers, simply writing down what they thought should be the content of the poster rather than describing the features that made it attractive to an adult audience. Some candidates wrote about adding animations or sound to the poster or described how to create a presentation. Quite a few candidates were able to identify a correct design feature but then produced answers that lacked the detail about how it could be used in the poster.

(b) Many answers lacked detail about computer processing. Those candidates that answered with computer processing gained some credit for this question. As with previous questions of this type, some candidates included AtoD conversion, but this takes place before the data enters the microprocessor and gained no credit. Some candidates correctly identified that the data from the sensor had to be compared with preset values and that alerts were generated if values where above or below them.

Question 5

(a) Generally, candidates gained at least one mark for this question. Many candidates were able to gain a mark for correctly stating that netiquette was ‘internet etiquette’ but found the second mark

more challenging. Some candidates gave good answers that were suitable for **5(b)** instead of actually explaining what netiquette was.

(b) On the whole candidates gained at least half marks for this question with good answers mentioning abusive language, not using capital letters and sending spam, to give examples. Some candidates misread the question, writing about safety on the internet, not giving out your personal details or posting a picture of yourself instead of looking at the rules for netiquette.

Question 6

Most candidates were able to gain at least two marks for this question.

(a) Many candidates were able to give the correct answer of RFID reader. Some candidates gave chip reader as an answer. The question asked for contactless, and a chip reader does not have to be contactless.

(b) Again, many candidates were able to select OCR as the correct answer for this question.

(c) This was the best answered of the three parts of this question with nearly all candidates selecting the correct option.

Question 7

(a) This was a question that required candidates to carefully read the question before answering it. The question related to the benefits and drawbacks to the pupil of using this system. Some candidates wrote that the system would be expensive to install which was not a benefit to the pupil. Some answers lacked detail or were answers that could have applied to both card and cash. Most candidates managed to gain some credit but very few gained full marks.

Planning of the answer was essential in this type of question as some benefits that could be drawbacks for the pupil (e.g., Parents can see what the pupils buy) were listed by some as an advantage. Better responses gave full sentences which explained the drawbacks. Those candidates that did not write enough detail or planning in their answers missed valuable points. For example, ‘using a card is fast’ is too vague but ‘the use of the card system is a faster transaction’ would gain the mark. A good hint in this type of question is to underline key words in the question to help the candidate understand the question fully.

(b) As with the previous question, this question required candidates to read the question thoroughly before answering it. This question offered a wide range of available mark points.

This question was different to previous questions of this type which used credit/debit cards. This contactless card had the money on the card, but many candidates mentioned the pupil/parents bank account, inserting the card or even inserting a PIN. Better responses kept within the use of a contactless card in paying for a meal in a school.

Question 8

Most candidates were able to achieve half marks for the question as a whole.

(a) Most candidates gained at least a mark in this question but mostly for selection of the sort. This question stated that the data was to be sorted into ascending order, therefore it was very surprising that most candidates gave answers that lacked enough detail as to what was sorted, e.g., ‘data is sorted in ascending order’. The first mark in the answer was awarded for correctly identifying the range. As with other questions, some candidates were not detailed with their responses stating that they would select B4 to B10 without mentioning expanding the range. Most candidates were able to gain at least one mark for selecting sort, with fewer explaining further how the sort was carried out.

(b) A well answered question with lots of candidates getting two or three marks.

(c) Generally well answered with lots of candidates gaining two or more marks. Some candidates got the abnormal and extreme data mixed up and others did not get the mark for the examples as they used the range from 4.1 to 7 instead of 0 to 10 which was in the question.

Question 9

(a) Again, as with previous questions on this paper, it is better to read the question fully before answering it.

(b) Again, as with other questions, many candidates lacked detail in their answer. For example, stating it was expensive was not detailed enough but stating that it was expensive to set up due to the extra hardware would gain the mark. Other candidates wrote correctly that the process was faster but lacked detail in their answer; if they had written that data entry was faster, then the mark could have been awarded. Most candidates gained credit for mentioning specific changes to the face could affect data entry whilst others stated that changes to the pupil would do this without mentioning the face. This was a "Discuss…" question and as such required expansion and comparison. Some candidates attempted a conclusion but simply repeated what they had written previously, thereby gaining no credit.

(c) The question stated that biometrics was an example of personal data, but many candidates gave answers that were biometrics rather than other personal data.

Question 10

This question was quite well answered especially in **part (b)**.

(a) The layout of the question expected an explanation followed by two advantages. Many candidates tended to mix up where they put their answers and advantages were in the explanation and vice versa. Also, answers did not always give enough detail, particularly when they tried to give the advantages.

Many candidates did not give enough detail in the first part of their answers. The explanation of what is meant by the cloud was often vague and few gained the full credit for this part of the question. Many responses gained some credit for the advantage for stating data could be accessed from anywhere. Other candidates gave a correct answer of storage capacity but did not compare it with other methods or the ease of adding to it.

(b) Many candidates gained at least three marks for this question. No real pattern to where candidates did not achieve marks. Common errors were with the Flash drive and Hard disk drive.

Question 11

Some candidates managed to get one or two marks for giving correct field names, even if the rest of their response was far from correct. Some candidates were challenged by the types of validation checks that could be carried out or on which field.

Some candidate thought that length checks could be carried out on the Name of book field even though the field lengths were different. Very few candidates could give a correct definition of a validation check with many stating that it checked for CORRECT data.

Question 12

Some candidates still believe that firewalls stop viruses and hackers.

Most candidates demonstrated very limited understanding of the role of a firewall. For those who gained some credit, the blocking of website/IP addresses, the monitoring of traffic into and out of the network and that the firewall did not stop hacking within the network were the most common responses worthy of credit.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/21
Practical Test A

Key messages

Candidates should check that the evidence they provide meets the requirements of the question paper. For example, relationship diagrams between tables should clearly show the type of relationship, the application of the same transition between slides must both show the transition and highlight all slides (or show application to the slide master).

Please note that the ARF and candidate's printouts must not contain staples. The original Cambridge supplied ARFs must be used, as they ensure that the candidate's work passes through the marking process and does not delay the marking.

General comments

Candidates are advised to read questions thoroughly and note the requirements for each part of the question; checking that these have been carried out BEFORE printing documents. When preparing evidence for printing, they should ensure that the copies are in a reasonable size particularly on the Evidence Document –several scripts had so much data packed onto a page in such a small size that it was difficult to be sure that what had been produced was correct.

Comments on specific questions

Document:

Header and footer items were generally well placed, but image text wrap was required and the file name in the footer needed to be checked to be right aligned especially if the file path was long.

Document layout and proof reading

Overall, margins were applied as defined in the Evidence Document. The change to two columns was usually well placed although a few did not include all the text with the final full stop or full stop and some text. There were a few instances of subheadings left as widowed/orphaned lines. Spell checking - some candidates were good at picking up spelling errors, others were not.

The body and subhead styles did not always match the modifications seen in the Evidence Document.

Document editing

Paragraph emphasis was generally well executed with the correct paragraph identified. Some did not indent the paragraph or not on both margins and some highlighted text rather than applying a background fill to the paragraph. A few did not bound the paragraph with a single line border, while a very few provided a single line to just one side of the paragraph.

The text to be emphasised with bold and italics was usually well done with a few candidates excluding the brackets before or after the phrase.

The bullet style at the end of the document was often accurately applied to the designated text, but sometimes extended to the previous 2 paragraphs or the final paragraph. Occasionally bullets were applied but in body paragraph style and not the predefined bullet paragraph style.

Report 1 (labels):

Producing labels seems to have been challenging for most candidates. Layout was the main issue with not having 8 labels to the page – 6 was frequently seen and the ability to fit more than 8 was too. Adding heading text and candidate details to every label was particularly challenging. Selection of records and sorting of these was generally good, but some reports included non-Tawara records, and some did not include the new record.

Report 2:

Overall this was well presented, where attempted, but it was frequently a task that candidates did not attempt across some centres.

Where attempted, most candidates managed the two new calculated fields and most did the *Order_Now* field correctly, although there was some confusion as to what is less than and greater than which impacted the selection of records. This impacted on the number of records selected where *Order_Now* = *-1*, i.e. (Yes).

Title text was mostly entered accurately, and candidate details were usually correctly positioned at the bottom of every page.

The field order was sometimes not as specified with the *Product* field positioned first or with the report grouped on the company name.

The two calculations at the end of the report proved challenging for some. Both formulae needed to be provided as evidence in full. Sometimes only one formula was seen. Formatting all the currency values in a consistent currency display was sometimes missed.

Mail Merge:

This was often a successfully fulfilled task. Common errors included spacing lost between fields and/or maintaining the original spacing and punctuation. The < > around candidate details as well as all other fields needed to be replaced. Almost all candidates who printed delivery notes produced the correct three documents.

Presentation:

The master slide items

A few candidates did not change the weight of the line to a 3 or 4 point line across the slide under the title. Several candidates omitted slide numbers and/or master slides items were inconsistently placed.

The chart

This was usually based on the specified data. Chart placement was often below the bulleted items and not to the left of them. Segment labels on the chart required company names and the values. Sometimes percentages were displayed instead of or as well as the values. Usually, the chart title was correct, with the chart presented with no legend displayed.

Editing and printing the presentation

The text added to the first slide was well done as was the moving of a slide. This could not always be checked if the slides were not numbered and particularly if not printed six slides to the page.

The Evidence Document:

There was much good evidence of the original document file being saved in the format of the text processing software. Sometimes the file name was not changed and sometimes the file type remained as rich text format. This had to be evidence of the outcome and not the process of saving but could often be checked in the footer of the document.

There was good evidence for page layout but A4 was sometimes not in evidence. Occasionally the margin settings did not match the output of the document.

Editing of styles was overall well done, however some screen prints did not fully show all the detail required for 12 point space after the paragraph. Screen prints were not always together which was necessary as evidence that the dialogue boxes belonged together. The dialogue box for the style and the sub dialogue box have to be seen to be linked in the screenshot to be certain of their association. 'Serif' as a font style seems to be prevalent in some centres, although there was no need to change the predefined font.

Database structure tables shown with correct file types and primary key was often accurate, but many candidates did not recognise that a field containing numeric data that would never be used in calculations, e.g. a telephone number, should be set as text.

Columnar forms were generated successfully, but some candidates presented the report in table format. Design features were often lacking, and few gained both marks. Four different features were looked for. There was good accurate entry of the new record.

The formulae were not always fully visible or correct, particularly the VAT calculation. The screenshot of the file exported as a 'pdf' was often missing.

When the automated selection was shown it was usually correct, but this often showed the result of the filter rather than the use of the automated selection method.

The single most common error for evidence of transitions between slides was not showing a single transition applied to all slides with evidence often only showing one slide selected.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/31
Practical Test B

Key messages

Please note that the ARF and candidate's printouts must not contain staples. The original Cambridge supplied ARFs must be used, as they ensure that the candidate's work passes through the marking process and does not delay the marking.

For this examination the main issues to note are as follows:

- Candidates need to know the importance of following the instructions on the question paper
- Candidates need to take greater care with the formatting of the spreadsheet to match the question paper
- Candidates need a better understanding of the syntax of CSS in a stylesheet and in an HTML document
- Candidates must ensure they include their candidate details in the specified place on all printouts.

General comments

The paper gave a good spread of marks and candidate errors were spread evenly over the sections of the paper.

In this session, as in previous sessions, some candidates printed work that was too small to be read even when using magnification devices. Candidates MUST ensure that all text can be easily read with the naked eye. If an examiner is unable to read the evidence they are unable to award marks.

Comments on specific questions

Question 1

Most candidates placed the specified files in the correct folder, although not all displayed the folder name in their screenshot evidence or did not follow the capitalisation as given in the question paper. Few candidates included all the specified file details; file dimensions were not always added to the folder specifications before the screenshot was taken. This often resulted in the mark for cropping the image to the specified dimensions not being awarded. Some candidates did not rotate the image in a clockwise direction and some did not reflect the image horizontally. Most candidates were able to crop the text from the image but did not crop the sides to leave only the whale shark visible.

Question 2

Most candidates produced the required table structure with no cell contents from the diagram or table borders visible on the final web page. Some candidates used pixels to define the size of the cells rather than the percentage values. Many candidates set the table width to 100 per cent and not 80 per cent as specified in the question paper.

Question 3

Most candidates placed the images and text in the correct cells in the table. The video was not always displayed correctly depending on the markup used by the candidate. Where candidates used the video tag, they were able to display the video file correctly with the automated text-based error message included in the

HTML and frequently attained more marks than candidates using other tags. Candidates should ensure the error message text gives an appropriate message to the user. Many candidates did not set the width of the video placeholder to 100 per cent to fill the width of the table cell.

Question 4

Please note that due to an issue with question 4, full marks have been awarded to all candidates for this question to make sure that no candidates were disadvantaged.

Question 5

Most candidates placed the text in the correct cell and displayed this as two paragraphs. In the text to be input some candidates did not enter this accurately; often omitting the colon or not following the capitalisation as given in the question paper. Some candidates did not apply the paragraph style to all text. A small number of candidates included a hyperlink to the file m21ocean.txt rather than the text from the file.

Question 6

Most candidates placed this text in the correct cells. Some candidates did not follow the capitalisation of the words as given in the question paper. Most candidates applied the h1 style to this text.

Question 7

Most candidates placed the text in the correct cell. A small number of candidates included a hyperlink to the file m21text.txt rather than the text from the file. Most candidates applied the h2 style to the text.

Question 8

The majority of candidates attached the correct stylesheet to the web page. A few candidates did not place the stylesheet in the head section of the document or included an absolute file path within this, which would not work when the webpage was placed on a different computer unless it had an identical file/folder structure for these files.

Question 9

Most candidates who attempted this question attained almost full marks. Few candidates were able to set the table alignment to centre within the stylesheet. Common errors included:

- adding the candidate details at the end of the stylesheet rather than at the start as specified in the question paper or omitting details altogether
- center spelt as centre
- colour codes not set in hexadecimal
- omitting the colour when defining styles h1, h2 and p
- not using capitalisation for Arial and Verdana
- specifying Helvetica for Verdana.

Some candidates used efficient methods when specifying the styles for h1, h2 and p and the alignment for h2 and p by defining them using a combined selector.

Most screenshots produced were legible, but some candidates are still presenting the evidence that is too small to be able to read with the naked eye. If examiners are unable to read the evidence, they are unable to award any marks.

Question 10

Most candidates produced evidence of the HTML source of their web page. A few candidates provided a link to the file containing the HTML.

Most candidates produced a screen print showing the web page in the browser. Some candidates did not include the address bar in the screen print so there was no evidence that this had been produced from the browser view. Some screen prints were small making the text illegible and the aspect ratio of the images were not maintained. A few candidates produced the screen print from the editor's preview facility not a browser.

Question 11

Most candidates completed this with 100 per cent accuracy. Some candidates included a colon after 'by' in the text. A small number of candidates included the details in the header.

Question 12

Almost all candidates completed this task as instructed.

Question 13

Few candidates completed this task with complete accuracy. Common errors included:

- not shading cells as shown in the question paper
- column B text not right aligned
- columns A and B in rows 21 and 22 not merged or in bold
- cell borders not visible
- column A not centred horizontally and/or vertically.

Question 14

Most candidates were able to answer this question correctly using the SUM function.

Question 15

Most candidates were able to answer this question correctly using the SUM function.

Question 16

Most candidates entered a correct formula to calculate the annual total income for each region. A small number of candidates only entered the formula in cell C21 and some used an incorrect formula totalling all cells in the column.

Question 17

Most candidates used an AVERAGE function to calculate the average of the quarterly total for each region. Some candidates did not include the correct cell references and did not produce the correct results.

Question 18

Most candidates were able to complete this task.

Question 19

Most candidates produced a printout as specified in the question paper. Very few candidates truncated any of the cell contents and most included the row and column headings on the printout.

Question 20

Most candidates produced a printout as specified in the question paper.