INFORMATION TECHNOLOGY

| Paper 0417/01 |
| Written |

General comments

Candidates appeared to have sufficient time to record all their answers, with very few candidates failing to answer all questions. The tendency of some candidates to learn answers from previous mark schemes off by heart continued. This led to many strange answers particularly on **Question 19**. This practice can cause candidates to lose many marks as they do not necessarily understand the concepts they are memorising. The wide scope of applications employed in questions on this paper meant that candidates were unable to gain high marks unless they had revised thoroughly.

In addition there were aspects of Systems Analysis which a number of candidates appeared to be unfamiliar with. Many candidates failed to name items of documentation. Once again, few candidates appeared to understand expert systems and how they work. Candidates also seemed not to understand the concept of reliability and desirability of information found on the internet.

Comments on specific questions

Question 1

The great majority of candidates gained full marks here. Those that did not gain full marks usually failed to identify the hard disk drive.

Question 2

Almost all candidates gained both marks but a small minority gave the answer 'bar code reader' instead of 'memory stick'.

Question 3

The large majority of candidates were awarded at least three marks on this question. A number incorrectly stated that dot matrix printers produced high quality output and some mistakenly said that ink jet printers were used for continuous stationery. Candidates may have been expecting an equal number of true and false answers.
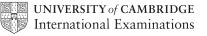
Question 4

Again, the vast majority of candidates gained full marks but a small minority incorrectly thought that school registers used magnetic ink or that a floppy disk was capable of storing very large files.

Question 5

Most candidates scored highly on this question, though a minority seemed to have little understanding of RAM and ROM.

Question 6

Candidates did not answer this question on a floor turtle as well as in previous years with some candidates seeming to have little understanding of turtle graphics. The vast majority of candidates gained some marks but a smaller number than usual gained full marks. Many candidates failed to include the END REPEAT statement in either of the loops.

Question 7

Candidates scored very highly on this question on health and safety, with the vast majority gaining full marks.

Question 8

The vast majority of candidates gained either two or three marks on this question on on-line processing. Common misconceptions were the processing of bank cheques and monitoring a patient's condition in a hospital.

Question 9

On the whole, this question was not as well answered as other questions on the paper.

(a) The majority of candidates gained at least two marks on what data are input on the screen. It seemed that a number of candidates did not read the question properly and gave details of the book rather than the borrower.

(b) This question was answered badly by most candidates. Most gave fairly general answers such as "must be user-friendly", "must be easy to use", "must look good" or "must look nice", which were not awarded marks.

(c) Again, this question was not answered very well by a number of candidates but the majority managed to gain some marks. Some candidates described validation rather than verification and many gave descriptions of proof reading.

(d) Again, this question was not answered very well by many candidates. Some candidates wrote that extreme data was a very large quantity of data. Some did not seem to know the technical terms. A sizeable minority of candidates gave descriptions of the different methods of implementation, which did not answer the question.

(e) Most candidates did well on this question and ticked the correct reasons for evaluation.

(f) Many candidates did not appear to know about the types of documentation. This was not well answered with a number of candidates not answering.

Question 10

On the whole this question on the chip and pin system was answered well with many candidates gaining full marks and a sizeable majority gaining 4 or more marks out of a possible 7.

Question 11

Candidates did not do as well as expected on this question on expert systems.

(a) Very few candidates appeared to have an understanding of expert systems. More candidates than previously seemed to be aware of the components of an expert system, but were not sure about the role of each. A sizeable minority gave answers from previous mark schemes to do with the creation of an expert system rather than how one works.

(b) The majority of candidates were able to name at least one example of where expert systems might be used.

Question 12

(a) Virtually all candidates scored at least one mark on this question on sensors, with the majority getting both.

(b) The majority of candidates gained both marks but a number of candidates failed to gain even one mark.

(c)   This part of the question was poorly answered with several candidates appearing to have no knowledge of how a microprocessor operates. Many incorrectly thought that the sensors controlled the whole process. There were a number of vague answers describing how clothes are washed without mentioning either sensors or microprocessors.

(d)   This was not answered as well as expected. Many candidates appeared to run out of ideas after mentioning laziness and more leisure time. A number mentioned aspects unrelated to lifestyles.

Question 13

(a)   Most candidates gained at least one mark on this part, usually for modem. Many gained both marks. A number of candidates thought that cables were a device and a surprising number answered this question with network topologies.

(b)   This question was fairly well answered. The vast majority of candidates gained at least two marks. A number of candidates thought that the W in WAN stood for wireless.

Question 14

On the whole this question was very well answered.

(a), (b)   The great majority of candidates gained a mark for each part, though some confused records with fields.

(c)   The vast majority of candidates gained this mark but a number gave bar code.

(d)   This part was very well answered but a small number chose Brooke as the correct answer.

(e)   Again, this part was well answered, though a surprising number thought that number in stock was the correct answer.

(f)   Many candidates seemed to think that it was acceptable to give any validation check and describe it. Few chose the most appropriate check and of those that did, many failed to describe it adequately.

Question 15

Virtually all candidates gained full marks on the computer components required for a video conferencing system.
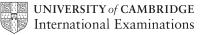
Question 16

Marks were well spread on this question on the security of online banking, but few candidates gained more than 4 marks (of a possible 6). The vast majority of candidates were able to name at least two methods and many were able to go on and describe at least one in the required detail.

Question 17

Being a 'discuss' question, this question was aimed at the higher ability candidates.

This question was not particularly well answered. The concepts of reliability and desirability of the information seemed to be beyond all but the very best candidates and even they struggled. Many candidates responded with answers to questions learned from previous mark schemes and so missed the marking points. There were a number of well written, extended answers that missed the point of the question and so gained no marks. A number of answers misguidedly referred to viruses and hackers.

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INFORMATION TECHNOLOGY

General comments

The paper tested familiar skills approachable by most candidates also including many of the familiar tasks of communication, document editing and database skills. There were also tasks which would test the skills of the most able candidates.

Overall the paper worked well, with some candidates producing fully worked and very accurate papers. The marks then covered the full range to zero. The paper started with familiar tasks of acquiring source materials via e-mail and Internet search followed by document editing and formatting that would have given access to up to half the marks. Some candidates did not print this document, and this may have been due partly to the fact that the instruction to print came at the end of the integration section of the paper and at the time of creating an outgoing e-mail message. Candidates need to be reminded of the need to print this document as the end of the examination is approaching, even if they have not completed all tasks to this point.

At various points in the paper, candidates are reminded to spell-check and proof-read their document. This is not intended to be a test of their knowledge of English grammar, so no grammatical errors are intended to be present in the document. If spelling errors are deliberately inserted into the document, then these are checked during the construction of the paper to be very obvious first or unique spelling suggestions in the dictionary. The proofreading skills are a reminder to the candidate to check overall layout and consistency in the presentation of the document. A long document with margins set to inches instead of centimetres should alert the candidate to check back with the paper. Similarly reports running to many pages will also generally indicate some error of selection. Reports including all or most of the records in the database will almost certainly indicate an error in selection.

Centres are advised to check that the facilities are all available to candidates in time for the examination at which they should be comfortable and familiar with the hardware setup and software.

Comments on specific questions

Section A

Question 1

This is an initial e-mail that provides the first working source file to the candidate and gives instructions to search for, download and save another file. No printed evidence of this message is required. If Internet connection is slow or unreliable, Centres may make provision for access to the source files via a local intranet, or in the end by providing the files to the candidate(s) who find themselves in difficulties. The facility to start work without undue delay or anxiety should be given high priority by the Supervisors / technical support of the examination

Question 2 to 4

One or more screenshots should provide evidence of the successful search, with the correct file found and ready to save. This was provided by many candidates.

Question 5 – load a file

The correct document file was accessed either from the file identified and saved from the Internet search or, in case of Internet problems, from a local search, or in last resort by provision of the file to the candidate. There were no reports of candidates being unable to do this – albeit a number of candidates provided no evidence of the document editing and integration skills.

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Questions 6 to 13 – format page layout and set up body text

The page was mostly set to portrait as specified, but margins / page size were incorrect in a significant number of candidates' work – possibly resulting from printer / document conflicts? The body text was mostly correctly formatted to two columns with a correctly selected font type, size, alignment and spacing, but all possible errors of single column, incorrect column spacing, sans-serif font, single line spacing, inconsistent alignment or point size were observed.

Questions 14 to 23 – create a title page

The title page with single column layout, showing a correctly entered and formatted heading and subheading was generally well executed, although errors of font family, spelling, alignment, column layout and position of the page break were all observed. The specified text in the heading was usually formatted as required.

Question 24 – insert and position header and footer items

The header and footer items were almost always correctly placed, but the centred and right aligned ones sometimes did not match the margins of the document text. An automated page number was sometimes inserted in the footer instead of the date as required in this paper. These items were not to appear on the first page and many candidates knew how to control this, although a significant number were not able to demonstrate this skill.

Questions 25 and 26 - edit text

The specified paragraph was generally moved to the correct place. This often gave rise to the need for the proof reading check to ensure that consistency of paragraph spacing and document integrity was preserved. The bulleted list was almost always correctly to a numbered list (roman numerals were accepted as a variant).

Question 27 – enter text

The new text was almost always added with accurately, but was sometimes not formatted to match the body text of the document or gave rise to text wrapping.

Questions 28 to 34 – edit and format text in a table

The staff details text was usually found in the csv file then copied and inserted into the table in the correct place. However, many candidates did not observe the specification to take the members of staff from the Strand office only, so copied all or incorrect rows. Any errors introduced into this text were treated as incorrectly copying the data from the source file, for example by retyping the text. The correct column and row were generally correctly identified for deletion. The column heading data was usually correctly formatted and the background of this row shaded correctly. There were errors which consisted of shading the text and not the row or shading the wrong row, and in formatting the appearance of the text. The most common errors were to allow text wrap and to fail to show all borders when printed.

Questions 35 to 36 – find and insert an appropriate image

An appropriate image was generally found and positioned in the correct place in the text, but there were some who did not place the image accurately relative to the text or did not set text wrap or resize the image to fill the column width.

Question 37 – save with a new file name

The document was saved here using a new file name. This filename would be seen to be different from the original source file when attached to the outgoing e-mail at the end of the examination. While there was no instruction to print here, the weaker candidate would have a reference point here to print their document if they found time or other restrictions later on. A few candidates did not print this document although they apparently referenced it in the outgoing e-mail message. It is important to print this evidence as many marks are attributed to it.

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Questions 38 and 39 – set up a database field structure and import data

The evidence of the field structure was generally provided and correct. The formatting for the *Price* field was always checked on the relevant report to see that it was correctly applied in two decimal places. It was noted that some regional settings would not (in a simple way) enable correct import of date data in the format day/month/year if date format was expecting month/day/year. In this case dates past the twelfth of the month would not be recognised or imported, leaving blank data in the date field for a large number of records. To alleviate this difficulty, CIE prepared and made available, alternative source files in which the data was formatted for month/day/year, notifying Centres of this arrangement. Some few candidates did import the data with date errors and allowance was made for this when noted by an Examiner in the reports.

Questions 40 and 41 – add records

The three records were generally accurately added to the database and were checked when seen in the *AR tour bookings for week 35* report.

Questions 42 and 43 – create and format a report

Of the candidates who tackled the database questions, this was the most frequently produced report. Often it was largely correctly structured, but errors in setting adequate field width to display all data made checking of sort order on the two specified fields impossible to verify, especially when the date field was truncated. The data in the two fields were sometimes sorted in the wrong order or were sorted on only one of the fields.

The creation of the calculated field (*income*) and the formatting of its data was generally accurately carried out. The *total income* calculation, formatting of the value or entering text in the associated label accurately often produced errors but was generally well managed.

Questions 44 and 45 - create and format a report

This report was frequently well executed often attracting full marks. There were errors of record selection on all the criteria and the sorting was sometimes incorrect or could not be checked if field widths were not wide enough to show all data. This also affected checking of the accuracy of data entry in the new records.

Questions 46 to 48 – create a summary report and integrate into the text document

The summary report was similar to previous papers. When available, it was generally placed correctly in the text document, sometimes with both counts and sums, sometimes only sums or counts. If values were incorrect due to errors in adding new records (e.g. missing records or added twice), the allowance was made for the variations in values resulting from this error traced back to the *Week 36 for Strand* report.

Questions 49 to 54

A chart was to be created based on the summary report above. The data chosen was to be the number of holidays sold, not their value, but if there were errors in producing the count of holidays sold, then this was treated as a follow through error. The chart was to be displayed with a title and segment labels and values. One segment was to be emphasised by pulling out that segment or by highlighting it (a provision for candidates who may have software that does not allow for withdrawal of segments).

Questions 55 and 56 – check, save and print document

The document was to be saved and printed at this point with a reminder to spell-check and proof-read again. A number of candidates who surely might have done work on the text document did not present any printed evidence for this document.

Questions 57 to 59 – prepare an e-mail message and attach a file

The e-mail message was generally well done. There were accuracy errors (e.g. UCLES for CIE was not accepted) and sometimes a blind copy was created instead of two "CC" copies. The file to be attached was the candidate's own saved work and hence a wide range of file names and extensions was accepted. These included .rtf, .doc, and zipped file extensions, however the original source file name and .rtf extension was not accepted as evidence of saving with a new file name. Some Centres reported long attach and upload times for candidates as this was a larger file than usual. This caused some natural anxiety to candidates, but the document is marked from the printout and the e-mail evidence from a screenshot. Candidates should focus on ensuring the relevant hard copies are printed.

INFORMATION TECHNOLOGY

| Paper 0417/03 |
| Practical Test B |

General comments

The majority of candidates completed all elements of the paper. There were vast differences in the range of results from Centre to Centre. Fewer candidates omitted sections of the paper than in previous sessions. The different method of testing candidates' knowledge of hyperlinks using slide 2 in the presentation authoring section caused some candidates a problem. It shows that some candidates are almost rote learning sets of skills to pass the practical examinations, rather than having the underlying knowledge and understanding to underpin these skills and allow them to be applied in any context.

For a significant number of candidates the website authoring section of the paper was their strongest element, in a similar pattern to the results found in other recent sessions. This paper gave a good spread of marks. Candidate errors were spread throughout the paper, with more errors in this session in the spreadsheet work. As in previous year's papers there were a significant number of typographical errors, particularly in the presentation authoring section. Many of these could have been avoided with more careful proof reading and correction.

A very small number of candidates failed to print their name, Centre number and candidate number on every document submitted for assessment, in this session. These appeared to be proportionally in line with the number in the June session. It is important that candidates do this as without clear printed evidence of the author of the work, Examiners are unable to award any marks for these pages. It is not acceptable for candidates to hand annotate their printouts with their name as there is no real evidence that they are the originators of the work, as opposed to collecting the work of another candidate from the printer, and annotating this with their name.

A small number of candidates (fewer than in many of the previous sessions) omitted one or more of the pages from the required printouts. In general candidates seemed well prepared. Some candidates submitted multiple printouts for some of the tasks, crossed out those printouts that were draft copies. A small number still failed to do this and if multiple printouts are submitted, Examiners will only mark the first occurrence of that page.

Please note that it is **not necessary** to staple together the work, work should be submitted in the ARF. Despite this appearing in this report in previous sessions, this is still presenting Examiners with a problem marking some pages from some Centres, as candidates had stapled all their work together in such a way that it was very difficult to separate the sheets in order to view and mark their candidate details and all of their work.

Overall the paper performed very well.

Comments on specific questions

Data Analysis

Question 1

This was performed well by almost all candidates.

Question 2

Despite clear instructions about placing the candidate's name, Centre number and candidate number in the header a small number of candidates did not insert these details into the header, some using the footer and others adding these to cells within the spreadsheet.

Question 3

This question required the use of a lookup function, some candidates used VLOOKUP and some used LOOKUP. Some candidates used an incorrect range (referencing A1 rather than A2) and did not include a False reference to ensure that this worked. Despite the instruction to include both absolute and relative referencing, a significant number of candidates failed to do so, some using a named range even though the question stated "...must not use a named range". The question specified using the external file N9CODE.CSV for the lookup array, in some cases this was not used. This question was generally well answered by most candidates.

Question 4

This was performed well by almost all candidates.

Question 5

The majority of candidates used named cells as specified, although some candidates were careless in entering them and introduced typographical errors.

Question 6

This was performed well by almost all candidates.

Question 7

This was performed well by almost all candidates.

Question 8

This question required the use of a COUNTIF function as specified in the question paper. This was generally well performed with the exception of the use of absolute and relative referencing. Ranges which should be fixed must be set as absolute references and variables that should change with replication must be set as relative references. The use of a range in place of a single variable is not good practice and will not gain a candidate marks. At IGCSE level candidates are expected to select the most appropriate formulae or functions available to them to answer the question set. Replicating formulae and functions from previous papers that are likely to have been used as practice papers will rarely gain full marks as each question is different.

Question 9

This was performed well by most candidates although there were a number of candidates who produced only 'portrait' printouts.

Question 10

This question gave very mixed results. Most candidates printed the formulae, yet few made sure that the row and column headings were visible. These are essential for the Examiner to check that the formulae displayed have the correct references.

Question 11

This was performed well by most candidates, although a significant number left the orientation set to landscape.

Question 12

This was performed well by many candidates, although in a number of cases the cell contents of some cells were omitted, presumably in an attempt to remove row and column headings. The row and column headings are those above row 1 and to the left of column A in most common spreadsheet structures.

Question 13

This was performed well by many candidates. The most significant errors were the lack of named cells (or typographical errors in the names of these cells) and the failure to return the Unit Retail price if the code column did not contain D N or P.

Question 14

This was performed well by most candidates.

Questions 15 to 20

These were performed well by almost all candidates, although a number of candidates did not submit all of the required value printouts so these marks could not be attained. A small number of candidates did not set the contents of **all three** columns to Euros with 2 decimal places. A very small number of candidates substituted pounds sterling (£) for Euros (€).

Question 21

This was performed well by almost all candidates although there were a number of candidates who produced only 'portrait' printouts.

Question 22

This question gave very mixed results. Most candidates printed the formulae, yet few made sure that the row and column headings were visible. These are essential for the Examiner to check that the formulae displayed have the correct references. A significant number of candidates did not select the print area as only cells F23 to H116, frequently including the top few rows or other columns.

Question 23

This was performed well by most candidates.

Question 24

This question was well done by many candidates; however a small number of candidates did not select only rows 23 to 54.

Question 25

A significant number of candidates did not select the data using all three criteria, many managed to set an AutoFilter (or equivalent search tool) to include two of the three criteria.

Website Authoring

Question 26

Almost all of the candidates downloaded the files successfully.

Question 27

A number of candidates did not attach the stylesheet N9STYLES.CSS to the webpage.

Question 28

The majority of candidates replaced the text correctly, but a significant number failed to set this text into paragraph style.

Question 29

This question required the candidates to set the table width of both tables to 100% of the displayed pixels used by the web browser and should allow the page to open in any browser set within hardware running at any screen resolution. The majority of candidates completed this successfully, although a number of candidates set (or allowed their WYSIWYG package to set the table width to a defined number of pixels. Some candidates set one table to 100% and the second table to an absolute number of pixels.

Questions 30 and 31

This question caused a significant problem for a number of candidates. Several merged the cells correctly but retained the text from both cells leaving duplicated text. On this occasion candidates were not penalised for this, although in future sessions this will not be acceptable where the text in both merged cells is the same. Many candidates missed the section that instruction to set the width of this column to 44% of the table width. It is important that candidates are able to work in html to set both absolute and relative sizes and not just rely upon the WYSIWYG package that they have opted to use.

Question 32

This question caused a significant problem for a large number of candidates. The majority of candidates set the cell padding and cell spacing to 4 but failed to set the table border of the top table to 0, despite their ability to set the border of the lower table to 2. Again, this is probably because of a reliance on WYSIWYG packages. Candidates were instructed at the end of the examination to identify and highlight this element of the markup (along with other elements) and should have edited the html code to follow this instruction.

Question 33

A significant number of candidates failed to set the anchor correctly at the top of the webpage, despite being given text in the markup to replace. The most common error was replacing the text with text that displayed "Top". A number of candidates did not name the anchor correctly, including underscores before the word TOP. A number of candidates omitted this question. There were a number of follow on errors where the link from the text 'Click Here' was not created to this anchor. Some candidates created the anchor but did not use the correct anchor name in their link. Others tried to re-run the webpage rather than using the hyperlink to reference the anchor.

Question 34

The text was frequently replaced correctly with the image, but a number of candidates failed to set the target window as specified to "_adhesive tape" or to point this with a hyperlink reference to the correct file, without including an absolute pathway to a drive on the local machine or network server.

Questions 35 to 38

These were generally well done by the vast majority of candidates. A small number of candidates distorted this image by maintaining its aspect ratio.

Question 39

The text was frequently replaced with 100% accuracy, most set this into paragraph style but few candidates used the VALIGN attribute to vertically align this text within the cell of the table.

Question 40

The text was frequently replaced with 100% accuracy, most attempted to set this into list style but a significant number of candidates failed to set each item of the list, showing only a single bullet point rather than a bulleted list.

Question 41

A small number of candidates from a range of Centres failed to correctly print one of the required printouts, especially the html printout completely.

Question 42

This was reasonably well done by the vast majority of candidates. Most identified at least one of the hyperlinks in the Presentation Authoring section.

Presentation Authoring

Questions 43 and 44

These were generally well done by the vast majority of candidates.

Question 45

There were a surprising number of errors in the application of this question, a significant number of candidates failed to set this item on the master slide. There were a number of case and spelling errors (Stationery was frequently replaced by Stationary) and more significantly a number of candidates who used the default font for the package rather than setting a sans-serif font. This error was common through a number of other questions in the presentation authoring section.

Questions 46

A number of candidates included a slide number but did not place it as specified in the question paper. The most common misplacement was leaving the page numbering in the default position set by their package.

Question 47

This question was well done by the majority of candidates, although several candidates failed to place the image on the master slide, placing copies of the image on all slides

Questions 48

A small number of candidates failed to set this item on the master slide. A number of candidates also used the default font for the package rather than setting a sans-serif font.

Question 49

A significant number of candidates omitted this instruction completely, and allowed their software package to dictate the font sizes and styles used throughout the presentation. Some candidates omitted the bullets and used numbered or lettered lists.

Question 50

This text was often entered accurately but the styles to be used (from **Question 49**) were not always applied. On many occasions Examiners commented that candidates had left the default styles set by their presentation authoring package.

Question 51

This text was often entered accurately but the styles to be used (from **Question 49**) were not always applied, including a significant number of sans-serif fonts used. The most common typographical error was to include an upper case 'S' for 'status'.

Question 52

This text was not often entered accurately; in particular a number of case errors were discovered. Again there were a number of scripts where candidates had left the default styles set by their presentation authoring package.

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Question 53

This question was generally completed accurately, although again the application of the styles from **Question 49** was sometimes omitted.

Question 54

This question required three bullet points, the details of the first bullet point were given and this part of the question was completed well by the majority of candidates. Although many identified the text that the hyperlink was from, few gave sufficient detail of the type of hyperlinks required. Some excellent examples were seen like "A hyperlink from the text 'Click here to e-mail us' to open an email editor" or "Use the text 'Click here to e-mail' to open hyperlink for a mailto: command", but many candidates failed to give specific details in their answers.

Question 55

A number of candidates failed to provide the evidence that they had set the bullets to appear one at a time. A small number also animated the subheading. This step caused a number of candidates to lose marks as the evidence was not presented to the Examiners. Screen shots of a bullet point appearing on the screen does not constitute this evidence, screen shots of the animation time line or showing that each bullet point is opened when the mouse button is pressed were acceptable. Although there were fewer printouts like this than in previous sessions, some candidates continue to make this mistake.

Question 56

The text was generally added correctly to this slide, but the failure to adhere to the style instructions in step 49 meant that a number of marks were lost on this question, particularly relating to font size and text alignment.

Question 57

Few candidates opened the image and flipped it horizontally. A number of candidates used the wrong image. The placing and resizing of the image also caused a number of candidates' significant problems. The final part of the instruction to ensure that the aspect ratio was maintained appears to have been ignored by a very large number of candidates.

Questions 58 to 59

The majority of candidates printed all of the required elements, one or two candidates submitted multiple copies of the same printout with no indication which were draft copies and which was the final copy. The majority of candidates also submitted the printout indicating the animation for the bulleted list.

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