INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/11
Theory

Key messages

This paper was deemed as being good to test the candidates' ability. The distribution of the marks ranged from 2 marks to 46 marks. The mean mark was 16.8 marks showing that this paper was harder than previous papers. The skew was towards the lower end of the mark range with a good distribution of marks.

The paper covered a large range of topics, some new ones and some that had been seen on previous examination papers, therefore giving a good coverage of the syllabus. The balance included technical questions as well as more general questions.

As the scenarios of the paper change, it is important that candidates read the questions carefully before answering them - as marks are awarded for objectively answering the question set. Candidates who performed well in this paper used specific and detailed language when answering the prose questions.

To a lesser extent than in previous years, some candidates answered the comparison questions using a split answer of advantages and disadvantages, with a line drawn down the answer lines. This type of layout does not give enough scope to award high marks as the answers are simply statements without a comparison.

There were less incidences of trade names being used.

General comments

The number of candidates answering to all questions has increased when compared with previous years, this shows that the exam paper has been made clear and by consequence candidates were able to answer to the best of their ability.

Please note that when a question indicates a specific number of answers, candidates should only write one answer per allocated space, as the first answer is marked for that space. Any extra answers placed incorrectly - on the same line or below the numbered responses - are not awarded.

Candidates need to be clear and use the correct language in the answers given, rather than using basic/colloquial statements like *"it is quicker"*. A good rule of thumb it to add 'because' and then give a valid reason/explanation.

It is also fundamental that all answers on the paper relate back to the question being set.

Comments on specific questions

Question 1

Most candidates were awarded at least one mark for this question. However, it was surprising that few circled both the motherboard and the ROM for the internal hardware components. Another common misconception was circling Actuator.

Question 2

Overall this question was challenging for candidates with many only being awarded one mark. **Question 2c** was answered better than the other three parts.

(a) This first part was very challenging with few correct answers. The correct answer was encryption.

(b) As with **part (a)** this question was challenging for most candidates. Only a small number wrote the correct answer, which was control.

(c) This part had the best results in comparison with others. The topic was deemed well known by most (hacking - the unauthorised access to a computer system) and a significant number answered this correctly.

(d) This part was also challenging to many of the candidates who did not identify 'interview' as the correct answer.

Question 3

Most candidates were able to be awarded two marks on this question.

(a) Candidates were able to identify the most appropriate password and give convincing reasons as to why this was a good choice. However, some candidates misunderstood the question and thought they were trying to find the password that was the easiest to remember. Nevertheless, in most cases these candidates were awarded follow on marks for giving correct reasons.

(b) This part was challenging for many candidates with only a small number of correct answers. There were many repeated answers from 3**(a)** concerning what made a good password. As mentioned above, please note that it is important to read the question closely before answering.

Question 4

This question was also deemed challenging for candidates with many only being awarded a mark.

Candidates seemed to understand the strategies to use to minimise the risks of using social networking. However, there were some misunderstandings in the question, namely about making new friends – where candidates answered with generic safeguarding sentences that did not answer the question, such as *"do not talk to strangers"*. Other topics that were repeated and lacked explanatory details were Personal data in one form or another and the idea of not meeting with strangers face-to-face.

Question 5

(a) Command Line Interfaces (CLI) are not seen in computers; however this is a taught syllabus therefore it was surprising that candidates found this question challenging. Many candidates misread the stem of the question and repeated the example in their answer, i.e. it takes up less memory. As in previous papers candidates were still solely writing *"faster"* and providing no explanation.

(b) This was better answered than **part (a)** but was still challenging for many candidates. Some candidates wrote initials like GUI but NUI and MUI, these were not understood by the Examiners and therefore the mark could not be awarded. In questions of this type, full names are essential.

Question 6

Again this was a challenging question with many candidates only being awarded two marks. The topic was the advantages and disadvantages of audio conferencing and video conferencing. There were some correct ideas concerning the advantages and disadvantages of audio conferencing. Most answers focused on the negative aspects concerning people not paying attention, not being present, taking the conference in bed.

Question 7

Candidates were awarded at least four marks for this question. **Parts (b)** and **(d)** were better answered that the other parts.

(a) This question was generally misunderstood, and candidates focused on answers concerning the benefits of a laptop rather than giving answers based on the scenario. As with other questions it is important that candidates read the question thoroughly before answering it. Those candidates that were awarded a mark tended to write the answer 'do not need to buy their own laptop'.

(b) This part was answered better than **part (a)** with answers that were more slanted towards working from home rather than the issues arising from the use of the company's laptops. Some candidates even wrote about classroom lessons from home, clearly showing the questions had not been read/understood.

(c) This question was challenging as it was misunderstood by many candidates with most answering about the content of the form rather than the features. Those that did manage to include drop down boxes, radio buttons, etc. were awarded no marks as they failed to describe what they would be useful for only stating the design feature.

(d) Candidates gave some good answers regarding the strategies to avoid health risks while using a computer. A few misunderstood the question and wrote about the safety risks. Some candidates wrote about the brightness of the screen and the position of the screen relative to the eyes but did not expand on these points.

Question 8

This question was about Virtual Reality (VR) and we felt as Examiners that candidates would know more about VR than they did.

(a) This part was better answered than **part (b)** with many being awarded at least a mark. With gaming being the popular answer.

(b) This question was very challenging. Candidates wrote about uses without writing about the impact. It seemed that many confused virtual reality with AI and sometimes GPS.

Question 9

Expert systems are always a difficult concept for candidates to understand and this session was no different.

(a) This part of the question related to the explanation of a rules base and many candidates found it challenging.

(b) This part was equally as challenging although some candidates were awarded a mark for writing that 'it produces the output'.

Question 10

This was a very challenging question about the use of a microprocessor in the braking system in a car. Basically the answers related to the use of a preset value and comparing against it in order for the actuator to switch on the brakes. Some candidates thought that the starting point was the sensor or that the sensor was the microprocessor. Again a question where the question needed to be read thoroughly.

Question 11

This was a standard question with a topic that had been seen previously. However candidates found the question very challenging.

(a) It was surprising that candidates found the question challenging. Many candidates understood about parallel running in that two systems operated side by side but missed out that the old system was removed. Some thought the users could choose which system they want to use. Direct changeover was better answered.

(b) Evaluating software is on the syllabus but has not been set for a few sessions. Some candidates mixed up evaluation with testing.

Question 12

Again this was another question that candidates found challenging. The question was about the use of credit cards.

(a) This was a new topic on the paper. Credit card cloning was well understood by most candidates although few one mark appeared to be the norm. This was for copying the information from a card.

(b) Some candidates gave contactless cards in their answer even though it was in the question. Popular correct answers were 'not letting the card out of your sight' or 'using biometrics'.

Question 13

Part (c) was better answered than the other parts of this challenging question.

(a) This was thought by the Examiners to be a straightforward question about verification, but many candidates mixed up verification with proof reading and even validation. The question stated that the input data was compared therefore it had to be verification.

(b) The data protection legislation has also proved to be a very difficult topic for candidates. This session the Examiners split some of the principles up so that candidates did not need to write out the whole principle. This may not be the case in other sessions.

(c) (i) This question was better answered that other parts of this question. The Examiners thought that this question was straightforward in that the age would have to be changed every year. Many candidates found the question challenging. Many candidates answered the question along the lines of the invasion of privacy.

(ii) Candidates that were awarded a mark in the first part tended to be awarded this mark. Few candidates stated that recording the date of birth would be sensible. A few tried to figure out a formula that could be applied to the age field. Many thought the solution was just to delete the field.

(d) (i) Some candidates found the question challenging and were unable to name a simple validation check. Some candidates gave examples of data or wrote prose.

(ii) Some candidates wrote that primary keys are unique. Some candidates wrote about connecting databases rather than tables. The concept of a foreign key was not well answered.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/12
Theory

Key messages

This paper was in line with the difficulty of previous sessions and was deemed as a good discriminator.

The range of marks for the paper was 0 to 71 (0417/12) and 0 to 67 (0983/12) marks, which showed a very good performance by candidates. Both showed very good distribution of marks with paper 0417/12 skewing slightly more towards the lower end than 0983/12. The middle sector of the distribution was slightly more abundant, with the 0983/12 paper showing more of a spread of marks in this section.

From basic health and safety inquiries to complex ICT applications like technical documentation and expert systems, the diverse questions provided comprehensive coverage of both technical and general aspects of ICT theory, encompassing both new and previously covered topics.

As the scenarios of the paper change it is important that candidates read the question carefully before answering it, as marks are awarded for answering the question that has been set. Candidates that read the question thoroughly were able to give more detailed answers. Candidates who performed well in this paper used specific and detailed language when replying to ‘describe’ and ‘discuss’ type questions. The number of discussion/describe/compare type answers where candidates split the answer into advantages and disadvantages has reduced in this session – it is important to understand that this type of layout does not give enough scope to be awarded high marks.

There has been an increase in the number of candidates using brand names to answer the question. 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 systems.

Occasionally candidates may need to expand their answers onto other parts of the examination paper or extra sheets. It is important that, if this occurs, the candidate clearly writes where the extra part is written and writes the question number on the extra work. The paper is marked electronically, and if the candidate writes on extra sheets or on the blank pages/spaces in the examination paper, the extra elements or key points within it may be missed.

General comments

Please note that when a question indicates a specific number of answers, candidates should only write one answer per allocated space, as the first answer is marked for that space. Any extra answers placed incorrectly - on the same line or below the numbered responses - are not awarded.

Candidates need to be clear and use the correct language in the answers given, rather than using basic/colloquial statements like *"it is quicker"*. A good rule of thumb it to add *"because"* and then give a valid reason/explanation.

There was a larger number of NIL responses in this paper when compared with previous sessions, which is when a candidate does not give an answer at all.

Examiners will always attempt their best to read the answers. However, some questions were challenging to read due to the handwriting of candidates. This may lead to the answer being impossible to decipher and candidates not being awarded marks.

Comments on specific questions

Question 1

This question was very well answered by most of the candidates.

Question 2

Overall, this question was well answered with many candidates being awarded at least three of the four marks.

(a) The majority of candidates successfully answered this part of the question.

(b) RSI was the most common correct answer for part (b), with many candidates providing it.

(c) The majority of candidates were able to earn the mark for part (c).

(d) Part (d) was also well-answered by many candidates.

Question 3

This was quite a challenging question for most candidates.

(a) This was a very challenging question part. This topic had been rarely set previously. Many candidates correctly explained two-factor authentication and therefore appeared to know the topic, but answers lacked detail. Some of the answers tended to describe 'FA rather than explain what it was.

(b) This question part was better answered than **part (a)** with candidates being awarded at least one mark usually for biometrics.

Question 4

This question concerned the application of microprocessor-controlled devices in transport safety. It proved to be a significant challenge for many candidates, despite similar questions related to their use in the home having been used before. Some other candidates repeated the question in their answers, proceeding to state that the device gave an alert. While some candidates were able to secure two to three marks, the change in context seemed to hinder overall performance.

As mentioned in previous reports, please note that it is important to read the question thoroughly before answering.

Question 5

This question was well answered by the candidates with an even spread of marks.

(a) This question part relating to CLI and GUI was well answered by candidates with many being awarded at least one of the two marks. As with the previous question some candidates did not fully read the question and gave answers relating to memory, which was the example given in the question.

(b) Since the answers to this question part were explicitly listed in the syllabus, examiners expected candidates to provide the technical names of user interfaces, such as gesture-based and dialogue-based. Some candidates mistakenly repeated the answers CLI and GUI from **part (a)**, which were incorrect for this question as it clearly stated *"others"*. When answering questions of this type, it's advisable to write the names in full, as many abbreviated initials were vague and could not be credited. This question proved to be quite challenging for candidates.

Question 6

While this question represented a slight departure from previous series, which focused on video and audio conferencing, it was generally well-answered by candidates. The shift to electronic conferencing did not significantly impact their performance.

(a) The question part directly asked for a definition of electronic conferencing. It was well-answered by many candidates, with most earning at least one mark. A significant number of candidates correctly identified electronic conferencing as a process conducted online or over the internet.

(b) The question part regarding electronic conferencing hardware was answered well by many candidates, who successfully identified three devices and provided a reason for at least one. While some candidates gave vague responses about microphones and webcams, implying they were output devices, it's important to remember that both devices capture data: microphones capture sound, and webcams capture images.

Question 7

While this question proved challenging overall, many candidates were able to secure up to four marks. **Part (a**) generally yielded better results than **part (b).**

(a) This question part was well answered with many candidates being awarded high marks, especially for the benefits of using laptops. While some candidates mentioned battery life, expense, and theft resistance, these answers are subjective and do not merit marks. A common mistake was writing about mobile phones instead of smartphones, indicating a need for more careful reading of the question.

(b) A common misunderstanding in this question part was focusing on the content of the certificate rather than its design features. While many candidates identified design elements like larger text and clear fonts, they often failed to provide detailed descriptions.

Question 8

This was a very challenging question about Virtual Reality and augmented reality. **Part (a)** which asked for the differences between VR and AR was better answered than **part (b)** which asked about the impact of AR on everyday life.

(a) This question part was well answered with candidates able to be awarded both marks for stating the devices that could be used for VR and AR, as well as stating the differences between them.

(b) While the topic of augmented reality (AR) was included in the syllabus, it had not been previously assessed. The open-ended format of this question part presented a challenge for many candidates. Many answers lacked detail, merely describing AR's usage rather than its impact. Additionally, some candidates mistakenly confused AR with artificial intelligence (AI).

Marks were awarded for demonstrating a genuine understanding of AR's everyday applications and providing concrete examples. While gaming is a valid example, a strong answer would have elaborated on the impact, such as how AR enhances the user's experience by creating a more lifelike environment. Similarly, using AR for firefighter training is commendable, but a more detailed response would have highlighted the safety benefits it provides by simulating real-world scenarios without putting trainees at risk.

Question 9

Expert systems consistently pose a challenge for candidates, and this question was no exception. It proved to be particularly demanding for many. While **part (a)** was generally answered better than **part (b)**, the topic as a whole presented significant difficulties.

(a) This question part concerned user interfaces. While understood by many candidates, it proved challenging due to a noticeable lack of detail in their responses. While they could explain that user interfaces facilitate communication with the system, many failed to specify that the system prompts the user for input. Some candidates mistakenly conflated expert systems with CLI and GUI.

(b) This question part was focused on the knowledge base, which presented another challenge for candidates. While many understood that it contains the system's knowledge or data, more specific answers were required. Terms like "collection of information" and "populated by experts" were the types of responses examiners were seeking.

Question 10

This question concerned the role of sensors in obstacle detection and proved to be a significant challenge, with many candidates misinterpreting it. Instead of focusing on the control aspect, many candidates addressed the role of the microprocessor. Others mistakenly believed that the sensor alone could detect obstacles. As with other lengthy questions, it's essential for candidates to read the question thoroughly before answering.

Question 11

Both parts of this question presented significant challenges for candidates.

(a) While candidates demonstrated a solid understanding of parallel changeover, many struggled to provide sufficient detail in their answers. As observed in previous sessions, this is a recurring issue with longer questions. Candidates often need to state and elaborate on their answers. Although many understood the concept of parallel changeover better than pilot, a common misconception was the belief that both systems always run simultaneously. In reality, the old system only remains operational until the new one takes over. Another misunderstanding was the assumption that the old system serves as a backup.

(b) Despite the fact that all the answers were explicitly listed in the syllabus, this question proved to be surprisingly challenging.

Question 12

This question was a new topic that had not been set previously and was answered well by many candidates.

(a) While **part (b)** was generally answered better, **part (a)** proved to be more challenging. The question regarding shoulder surfing was answered correctly by many candidates, who identified it as the act of looking over someone's shoulder to observe them typing a password. Some candidates also earned the second mark by mentioning the potential for memorizing the password.

(b) This question part, regarding security measures, was answered well by many candidates, with many earning at least one mark for mentioning the use of strong passwords or biometrics.

Question 13

This question was well answered and had a very good distribution of marks making it a good discriminator of performance.

(a) This question part was well answered by many candidates.

(b) This question part was answered well by many candidates, although understanding input devices was generally stronger than understanding output devices. Some candidates confused examples of input and output devices. Candidates who correctly identified that input devices send data to the computer and output devices receive data from the computer were awarded marks. A few candidates demonstrated a deeper understanding, stating that input devices are controlled by the user, while output devices are controlled by the computer. A common misconception was the belief that input devices are internal to the computer and output devices are external.

(c) This question related to direct data entry devices and showed images to help the candidate.

(i) This question part focused on QR code readers and was answered well by many candidates. While the primary answer was QR code reader, examiners also accepted camera as an alternative.

(ii) This question part was also well answered with many correct answers. Examiners were looking for bar code reader or bar code scanner.

(iii) This was a challenging question. Examiners were looking for magnetic stripe reader.

(iv) This was also a challenging question. Examiners were looking for RFID reader although we did allow RFID chip or RFID tag reader.

Question 14

This was a challenging question with many candidates not including enough detail in their answers. Answers like faster is too vague as it needs some explanation as to what is faster.

Question 15

Despite being a fundamental concept, this question proved challenging for many candidates. While the correct answer focused on the protection of personal data, many candidates simply listed the principles of the data protection act.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/13
Theory

Key messages

This paper was in line with the difficulty of previous sessions.

The range of marks for the paper was 0 to 63 marks which showed a very good range although the skew was more towards the lower end. The average mark for the paper was 25 marks. The paper covered a large range of topics giving a good coverage of the syllabus, this included topics that had been covered previously as well as new topics. The balance included technical questions as well as more general questions.

As the scenarios of the paper change it is important that candidates read the question carefully before answering it, as marks are awarded for answering the question that has been set. Candidates that read the question thoroughly were able to give more detailed answers. Candidates who performed well in this paper used specific and detailed language when replying to 'describe' and 'discuss' type questions. The number of discussion/describe/compare type answers where candidates split the answer into advantages and disadvantages has reduced in this session – it is important to understand that this type of layout does not give enough scope to be awarded high marks.

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Occasionally candidates may need to expand their answers onto other parts of the examination paper or extra sheets. It is important that, if this occurs, the candidate clearly writes where the extra part is written and writes the question number on the extra work. The paper is marked electronically, and if the candidate writes on extra sheets or on the blank pages/spaces in the examination paper, the extra elements or key points within it may be missed.

General comments

Please note that when a question indicates a specific number of answers, candidates should only write one answer per allocated space, as the first answer is marked for that space. Any extra answers placed incorrectly - on the same line or below the numbered responses - are not awarded.

Candidates need to be clear and use the correct language in the answers given, rather than using basic/colloquial statements like "it is quicker". A good rule of thumb it to add "because" and then give a valid reason/explanation.

There was a larger number of NIL responses in this paper when compared with previous sessions, which is when a candidate does not give an answer at all.

Comments on specific questions

Question 1

This question was answered well by many candidates, with most earning at least one mark, if not both. Only a small number of candidates failed to secure any marks. Interestingly, there were a significant number of changes of mind among candidates on this question.

Question 2

While candidates demonstrated a basic understanding of development layers, many struggled to correctly identify each layer. This question proved to be challenging overall.

(a) Despite candidates' familiarity with the names of development layers, this question proved challenging, resulting in a wide range of responses.

(b) Similar to part (a), this question also presented difficulties for candidates, leading to a variety of answers.

(c) This question part, like the previous ones, was challenging and elicited a wide range of responses from candidates.

Question 3

Part **(a)** of this question introduced a new topic that had not been previously assessed. While many candidates were able to secure at least two marks, their success tended to be more pronounced in part **(b)** than in part **(a)**.

(a) As a completely new topic, this question part presented significant challenges for candidates. While the concept of zero login has been included in the syllabus, it had not been assessed as a standalone question. Many candidates incorrectly assumed that zero login meant logging in without a password. In reality, zero login is a method that eliminates the need for manual input by utilising biometric data, location information, or other factors.

(b) This question part was answered well by many candidates, with many earning all three marks. While some candidates responded with device names, it's important to remember that the question asked for methods. Carefully reading and understanding the question is crucial for successful answers.

Question 4

While the topic of microprocessor-controlled devices in autonomous vehicles has been covered in previous sessions, the format of this question presented a challenge for many candidates. Responses often fell into three categories: focusing solely on cars, GPS, or microprocessors in general. Generic answers such as *"safer"*, *"continuous process"*, *"need for internet"*, and *"24/7 operation"* were frequently seen. However, the key to answering this question was careful reading and understanding. Some candidates mistakenly believed that microprocessors would allow drivers to concentrate less, overlooking the autonomous nature of the vehicles.

The most crucial aspect is the role of microprocessor-controlled devices in enhancing vehicle safety. Many candidates correctly identified this benefit, although some answers lacked sufficient detail. Positive consequences such as preventing human error, ensuring the safety of drivers and others, and avoiding accidents were also recognised.

Common negative reasons included malfunctions and hacking. Many candidates focused on the expense of the microprocessors themselves, when the increased cost of the vehicle due to microprocessor was the correct interpretation. It's important to note that the vehicle integration of these devices can also lead to higher repair costs.

Question 5

This question was quite well answered by many candidates. The question dealt with user interfaces.

(a) This question part proved to be challenging for many candidates. Some repeated the example provided in the question, highlighting the importance of careful reading. One-word answers were insufficient and lacked detail. However, many candidates were able to secure at least one mark.

(b) This question part was answered well by many candidates, with most earning at least one mark, if not both. While the allowed interfaces are listed in the syllabus, some candidates mistakenly wrote Graphical User Interface (GUI) despite the prompt for other types. Although we accepted CLI as an abbreviation, other initials like MUI, UI, and NUI were not recognised. It's advisable to write out user interfaces in full to avoid confusion.

Question 6

This question was a good discriminator giving candidates a good range of marks. The question related to web conferencing and video conferencing.

(a) This question part proved to be challenging. As previously noted in reports of this type, questions concerning advantages and disadvantages require a comparative analysis. While candidates generally understood the differences between the two, their answers often lacked detail. Many responses focused on the reduced hardware requirements of web conferencing but failed to explicitly mention the associated cost savings. Additionally, other candidates tended to list more disadvantages than advantages. As many candidates were more familiar with video conferencing, responses tended to be biased towards that format.

(b) This question part was answered well by many candidates, with most earning at least three marks and many achieving full marks. However, some candidates missed out on points by only listing hardware devices. Additionally, company names for software were not considered acceptable answers.

Question 7

Overall this was a challenging question. The question related to copyright of a website.

(a) This question part was answered well by many candidates, with most earning at least one mark. While most candidates understood the basic concepts, their answers often lacked detail. Many candidates successfully scored the mark for mentioning the importance of giving credit or obtaining permission for copyrighted material.

(b) This was also a challenging question. There were a lot of repeated answers from **part (a)**.

(c) This question part also proved to be challenging, especially for candidates who may have been running low on energy by the end of the exam. There was some confusion between copyright and data protection. Correct answers typically included giving credit to authors and avoiding plagiarism.

Question 8

This was a challenging question. As a relatively rare topic on previous examinations, artificial intelligence (AI) presented a challenging question for many candidates.

(a) This question part proved to be challenging for many candidates. A common misconception was the belief that robots are the primary source of AI. Some answers given were more appropriate for **part (b)**. Additionally, several candidates accurately identified AI's ability to mimic human behaviour.

(b) While **part (b)** was generally answered better than **part (a)**, it still presented significant challenges for candidates. Many candidates demonstrated an understanding of social media but struggled to differentiate between AI, AR, and VR in their answers. Although they provided lengthy responses, many focused on the image-enhancing features of social media, often criticising the artificiality of the content. The most successful answers highlighted the ability of social media to provide personalised content and facilitate connections with others. However, many responses lacked the necessary detail and depth.

Question 9

Overall this question was considered challenging. While candidates were able to secure a few marks, most of their success came from **part (a)**. Expert systems continue to be a challenging topic for many candidates.

(a) This question part was well-answered by many candidates. Those who demonstrated a strong understanding of expert systems scored highly, while others struggled to achieve significant marks.

(b) This question part explored explanation systems, a relatively uncommon topic in previous examinations, and proved to be quite challenging for many candidates. Many responses simply repeated the question's wording, indicating a lack of understanding.

Question 10

This question concerned robot floor cleaners and sensors and proved to be challenging for many candidates. While many were able to earn a mark for identifying the potential issue of machines not cleaning the entire room or becoming trapped, the topic was generally difficult.

Question 11

This question on parallel running was generally well-answered, with many candidates scoring between one and three marks.

(a) While many candidates demonstrated a basic understanding of parallel running, their answers often lacked detail. Most candidates were able to earn at least one mark for recognizing that the two systems operate simultaneously. However, fewer candidates could provide a comprehensive explanation, including the eventual phasing out of the old system. Some of those who did mention the phasing out process were unclear about which system was being retired.

(b) This question part, concerning parallel running, proved to be challenging for many candidates, despite producing some positive results. A common misconception was the belief that the old system serves as a backup in case the new system fails. However, in most scenarios, the old system is phased out once the new system is fully operational. Another misconception was the idea that the two systems are compared to assess the performance of the new one. Many candidates also noted the increased cost and potential for generating more data when running two systems simultaneously.

Question 12

This question about keylogging was well answered as a whole.

(a) This part of the question was quite challenging for many of the candidates. Some candidates tried to reword the question as their answer.

(b) This question was challenging for many candidates especially those candidates that had not understood key logging. Many candidates did not understand the concept and gave answers like strong password and covering the keyboard when entering the data, without realising that the security breach is via malware.

Question 13

This question regarding barcodes was well-answered, with candidates achieving a wide range of marks. Overall, it served as a good discriminator, allowing candidates to demonstrate their knowledge and earn solid scores.

(a) While many candidates were able to earn at least a couple of marks on this question part, their answers often lacked sufficient detail or failed to connect the concepts to the given scenario. While candidates understood the general idea of validation checks, their responses were frequently too generic.

(b) This question part was answered well by many candidates, with most earning at least two marks. As an advantage/disadvantage question, it required a comparative analysis. Candidates who understood the prompt were able to provide strong responses, although some answers lacked detail or depth.

(c) This question part was answered well by many candidates. However, some responses lacked specificity, failing to mention the device's function as a reader or scanner.

Question 14

This was a challenging question about carbon copies.

(a) This question part proved to be challenging for many candidates. One-word answers were common, and many candidates focused on the functionalities of email. The most frequently correct response was the ability to attach files.

(b) This question part also proved to be challenging for many candidates, with some only securing a single mark. A common misconception was the confusion between BCC and the sender, leading some candidates to incorrectly state that the sender was unknown.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/21

Practical Test

Key messages

- For this examination, the main issues to note are as follows:
- Candidates need to understand the importance of following the instructions on the question paper.
- Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types and select a named font for the type specified.
- Candidates must take care to enter accurately text in bold on the question paper.
- Candidates must use proofing techniques to identify errors and ensure consistency of presentation in all their work.
- Candidates retain existing styles applied to the source file document text.
- Candidates must base document styles on the 'normal' (Microsoft Office) or 'default' (Open Office) paragraph style.
- Candidates must be able to distinguish between the database page header/footer area and the report header/footer area and understand which is appropriate to use.
- Candidates must be able to create functioning radio buttons in a form and understand the difference between radio buttons and check boxes.
- Candidates must make sure their action button hyperlink evidence captures both the selected action button and the link to the correct file.
- Candidates must make sure they include their identification details in tasks before printing as instructed on the question paper.
- Candidates must produce legible screenshots which show the outcome of an action rather than the skill process.
- Candidates must printout the Evidence Document as this contains supporting evidence that could substantially improve their grade.

General comments

The paper gave a good spread of marks and candidate performance was at the same level as previous sessions. Overall, the candidates appeared to be well prepared for the examination with most attempting all tasks on the paper. Most candidates showed a good level of skill. Creating radio buttons in a form proved the most challenging part of the paper. Whilst most candidates were able to create a single option group with correctly labelled controls, few were able to make the options function correctly with the entry saved in the correct format in the field created in the table.

Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types. These are not the actual names of font styles but categories of font type with specific attributes. Candidates must be able to select an appropriate font for the font type specified.

Text to be entered by the candidate as part of a task is displayed in bold on the question paper. Marks are available for accurate data entry of this text which must be keyed exactly as shown, including punctuation and capitalisation. Candidates are advised to carefully check their data entry to ensure it matches the text on the question paper. Common errors include incorrect capitalisation, incorrect or missing characters, omission of spaces, truncated headings and superfluous punctuation.

Candidates are instructed to produce screenshots to evidence the ICT skills that cannot be assessed through the printed product alone. These screenshots must display the outcome of an action and not the process, for example, the saved word processing document must be seen in the file list within the folder, capturing the '*Save As*' dialogue box is inconclusive as the save process is incomplete. A particular issue at this session was screenshot evidence that was too small and/or faint to be read even using magnification devices. Candidates must ensure that all screenshots can be easily read with the naked eye. Care should be taken when cropping and resizing screenshots to ensure crucial elements are still shown such as primary keys and all the fields in the database table structure.

The question paper prompts candidates to include their name, centre number and candidate number on all tasks prior to printing. Without clear printed evidence of the author of the work, marks cannot be awarded. It is not acceptable for candidates to annotate their printouts by hand as there is no real evidence that they are the originators of the work.

Some centres are still submitting stapled work which is not permitted. Hole-punching work and securing it with treasury tags or string is permitted but care should be taken not to obscure text with the punch holes. Centres should return the Supervisor's Report Folder with the candidates' work. This identifies the software used and can be helpful if issues were experienced during the practical test. The candidates' work must be submitted in the original hard-copy printed Assessment Record Folders that are provided to centres. Printed or photocopied Assessment Record Folders should not be used.

Comments on specific questions

Task 1 – *The Evidence Document*

The evidence document was used by most candidates to store screenshot evidence as instructed. Some candidates did not achieve marks as their screenshots were difficult or impossible to read as the evidence was too small or faint even with magnification devices. Essential information had been cropped out of some screenshots. Some candidates did not place their screenshots under the correct step number heading making it difficult to locate the correct evidence. A small number did not print identification details on every page of the document so marks could only be awarded for pages where the identification details were printed. A small minority did not present the evidence document for marking.

Task 2 – *Document*

Question 1

Candidates opened the correct file and most saved it correctly with the required file name although some did not enter the file name in capitals, or it contained data entry errors. A few candidates incorrectly saved the file in the original RTF format rather than the format of the word processing software being used. Most candidates produced a screenshot of the folder contents after the file had been saved which provided the evidence required. In some instances, the save evidence was inconclusive as it showed the save in process rather than capturing the folder contents showing the outcome of the save. Most candidates retained the page setup settings as instructed. A few candidates made changes to the font style and/or formatting of the body style. This style had already been created and applied to the document text and no changes should be made to the existing styles.

Question 2

Headers and footers were generally inserted and aligned as instructed. A number of candidates did not enter the header text given and those that did often had data entry or capitalisation errors. A few candidates did not leave a space after the colon or inserted their identification details on a separate line instead of following the colon. Occasionally candidates omitted their centre number and/or candidate number from the header details and sometimes their details wrapped to the left on a second line so right alignment of the header was not maintained. A few candidates inserted the header text in the body area, so it did not appear in the header area on every page. Occasionally page numbers were omitted from the footer, or an automated field had not been used with the keyed number 1 appearing on all pages. Occasionally, the header/footer items did not align with the page margins on all pages. The candidates who used the built-in content control to align the items did not always remove superfluous text or placeholders in the header or footer areas.

Question 3

The creation and storage of the new title style was well done by most candidates. Common errors included capitalisation or typographical errors in the style name, an underscore used instead of a dash, or the style containing additional formatting not listed. A number of candidates did not base the style on the 'default' or 'normal' paragraph style as instructed. The style formatting was mostly set correctly although some candidates incorrectly entered 'serif' as the font name which is not a recognised named font style. A named font style with attributes of the serif typeface category must be selected and applied. Other candidates set '*Arial*' as the font style name which is not a serif font style. A screenshot of the *TC-title* style provided details of the settings created and in **Question 4** the formatting of the title needed to match the settings seen in this screenshot. A few screenshots were cropped so some of the style settings were not seen, and marks could therefore not be awarded.

Question 4

Most candidates correctly applied the title style they created in **Question 3** to the supplied title text in the recall document. Occasionally the formatting did not match the settings seen in the Evidence Document screenshot. A few candidates did not print the Evidence Document or applied the formatting without providing screenshot evidence of creating the title style and therefore did not achieve the style marks.

Question 5

Most candidates applied two equally spaced columns to the correct text, with the required spacing between the columns. Some candidates included the penultimate paragraph in the column formatting or displayed the entire document in two columns, therefore not controlling the display of the columns. Some candidates set the space between columns at the default, or it was much larger than 1 centimetre. Some candidates inserted the initial column break below rather than above the subheading. Occasionally, a page break was inserted instead of a section break. The final full stop in the column selection was not always included.

Question 6

Most candidates correctly modified the pre-defined *TC-subhead* style but did not always produce screenshot evidence to show the modifications. A small number of candidates incorrectly created a new style from the information provided instead of modifying the supplied style. The subhead style had already been applied to the subheadings in the recall document which should automatically update to reflect the modifications made. Some candidates did not remove the underline from the original style or change the alignment to centred.

Question 7

Most candidates correctly applied a numbered list from 1 to 7 to the specified text. The most common errors were not aligning the list to the left margin and/or not setting the list in single line spacing with a 7-point space after the last item in the list.

Question 8

Most candidates imported the correct image and positioned this in the correct paragraph. Some candidates did not attempt to rotate the image 180 degrees and a few incorrectly flipped the image as well as rotating it so the image text did not display correctly. The image size and aspect ratio were not always maintained particularly when the image was rotated. The image was occasionally aligned with the left column margin instead of the right margin and did not always align with the top of the text specified. Text wrap was occasionally not applied to the image.

Question 9

Formatting the table produced a mixed response. A number of candidates did not set the table width and/or row heights correctly and several did not vertically align the data in the cells. The table often filled the width of the page, so it was not possible to assess if the table had been centred within the page margins.

Question 10

The overall presentation of the document was generally good. Most documents were presented in portrait orientation and the table and/or list were not split over columns or pages. The most common issue was for widows/orphans not controlled with a single line of text or a subheading left at the top or bottom of a column, for example the subheading *INDUCTION PROCESS* was often left at the bottom of the first column on page 2. Occasionally the columns did not align at the top of the page. Some candidates incorrectly made changes to the font style and/or formatting of the *TC-body* style. This style had already been created and applied to text in the recall document with the question paper instructing that no changes should be made to the styles. Often full justification, line spacing and paragraph spacing had been changed on the body text. The page margins were not always consistent with the column section often indented further than the margins above and below this section.

Task 3 – *Database*

Question 11

Importing the csv files and setting the primary keys were usually well done. Some candidates did not set the data types as given on the question paper which resulted in import errors if the *Contact_Number* was imported as numeric/integer instead of alphanumeric as instructed. Candidates should be aware that telephone numbers are stored as an alphanumeric/string data type as no calculation will be performed on these values and it will avoid the leading zeros being lost. Other errors included not importing the date field in DMY format resulting in some missing dates, setting the Boolean field as a numeric or text data type and displaying as a tick box, True/False or – 1/0, *Gender* set as a Boolean data type and not displaying the time fields as hh:mm with seconds included or AM/PM displayed. Screenshot evidence was occasionally cropped so not all ten fields were shown in the child table. Most candidates included an ID field in the bookings table as instructed but did not always set this as an AutoNumber data type with several setting this field as an alphanumeric data type. A few candidates did not create an ID field in the bookings table and instead set the primary key on the *Child_ID* field which was not appropriate as this field did not contain unique data. Occasionally screenshot evidence was provided for one database table only.

Question 12

Most candidates created a relationship between the tables, but the screenshot evidence supplied did not always evidence a one-to-many relationship. A screenshot of the relationship dialogue box will evidence the relationship type. The relationship diagram will only be credited if it shows the single and one-to-many infinity symbols confirming the relationship type.

Question 13

This report used fields from both tables and was completed well by most candidates. The report title was usually entered at the top of the report in a larger font size but was not always centre aligned as instructed. Occasionally the title contained data entry or capitalisation errors or displayed additional text such as '*Query 1*' in the title area. The '*g*' descender on the title was not always fully visible if the text box had not been adjusted to accommodate the larger font size. The new field heading was usually entered accurately with only a few omitting the underscore or more commonly having capitalisation errors. The calculation was generally completed well but not all the data was displayed to 1 decimal place. The search on two criterion was completed well although occasionally only the Morning session data was displayed. The sort was not always set for both fields and the *DOB* field was often in descending rather than ascending order. Setting the sort order in the report structure after the report has been created instead of during the report setup will help, particularly when the second sort field appears before the first sort field in the report. Most included the correct fields, but these were often in the wrong order particularly where the sort order had been set during the creation of the report which automatically places the two sort fields first. This can be avoided by setting the sort order in the report structure after the report has been created. The *Food_Allergy* field was occasionally missing or in the wrong position. Most presented the report in landscape orientation with the fields and data fitting a single page wide. Occasionally data in one or more fields, most commonly *Last_Name*, was truncated. Identification details were often entered in the report footer, so they only appeared on the last page of the report rather than in the page footer, so they printed at the bottom of every page.

Question 14

Most candidates entered the new field in the correct table. Occasionally screenshot evidence was cropped so it was not possible to assess which table the field had been placed in. The field name *Ailment_ID* often contained data entry errors such as *Aliment_ID*. Very few candidates set the new field to the correct data type for the software being used so radio button data could be stored. In Microsoft Access this field should be set as numeric and in Open-Source software this field should be alphanumeric.

Question 15

Most candidates created a columnar data entry form using the specified fields from the child table. The form usually displayed a single record at a time. Occasionally additional fields were displayed on the form, or the screenshot evidence was taken from form design view without a record from the database displayed. Form layout, design and presentation was not assessed on this question paper.

Question 16

Creating five functioning radio buttons proved challenging and produced a mixed response. A few candidates produced no evidence for this question. Most candidates attempted to create an option group with a variety of combo boxes, list boxes, check boxes and text boxes all seen as attempts at creating radio buttons. The labels for the five options were often not entered accurately with various data entry errors seen. Few candidates provided screenshot evidence that the selected option would save in the *Ailment_ID* field of the child table. Evidence of grouping the radio buttons as one option group was often inconclusive, and the options were not always aligned consistently. The option group label *Ailment* was often keyed as *Aliment*. There were still a good number of successful attempts at creating radio buttons, but few candidates achieved full marks for the whole process as the radio buttons were not operational and would not work effectively.

Question 17

Screenshot evidence did not always show the new record entered in the form. Some captured the evidence from form design view, or the form displayed the first record in the table which provided no evidence of accurate data entry for the new record. Some candidates did not enter all the data for the new record, or the entry contained data entry or capitalisation errors such as *Jakara* entered as *Jakarta* or errors in the dates. The *Eczema* option needed to be selected from the *Ailment* group options.

Question 18

This question produced a mixed response with some candidates providing no evidence. Any type of automated selection method to find the new record in the child table was acceptable and a variety of methods were seen including record search, find, text filters etc. Candidates needed to evidence the automated selection method, and the record found with all 11 fields displayed in full including the *Ailment_ID* entry. Some candidates created another form instead of showing the new record in the child table.

Task 4 – *Presentation*

Question 19

Most candidates created a presentation and imported eight slides using the correct source file. A few candidates did not apply a title and bullet layout to all slides and occasionally the bulleted text on the chart slide was right aligned which was inconsistent with all other slides where the text and bullets were left aligned. Marks were not achieved if incorrect software had been used such as the .rtf file opened, manipulated and printed in word processing software.

Question 20

Most candidates correctly entered their identification details in the top right of the slide header and slide numbers in the bottom left of the slide footer. These were usually displayed in the same position on all slides in the presentation. A few candidates displayed their details in the page header instead of the slide header. Occasionally the header and/or footer details were in the wrong position or were not in the same position on every slide. Built-in slide designs can be used but often apply a different layout to slide 1 so candidates must ensure the design chosen meets all the requirements of the question paper.

Question 21

Candidates performed better in this task than in previous sessions and there were less instances of the text being duplicated. Most candidates indented the three bulleted items correctly, decreased the font size and changed the bullet style to a dash. The spacing between the bullet and the text was not always maintained and occasionally the bullets were not aligned consistently. The most common error was not displaying the demoted text in italics as shown on the question paper and some candidates incorrectly applied additional enhancements such as bold.

Question 22

Most candidates attempted to delete the slides but many only deleted the first slide with the *Area of learning and development* slide still present in the presentation. A small number of candidates hid the two slides instead of deleting them.

Question 23

Most candidates created a vertical bar chart with most selecting the correct data. A few candidates were unable to select non-contiguous data and therefore included the *Science* data in their selection. The subject labels were not always present or were displayed in a legend instead of as labels on the category axis. Occasionally a horizontal or stacked chart were produced.

Question 24

Most candidates attempted to enter a chart title. Occasionally this contained data entry or capitalisation errors such as *childcare* as *child care*, *Childcare* or *children* and *results* often keyed as *result*.

Question 25

Displaying the values as data labels along the top of each bar was completed well by most candidates. Occasionally the labels were positioned in the middle of each bar making the values difficult to read. Most candidates displayed a legend, but the legend labels were sometimes incorrect, or the capitalisation did not match the source file. Some candidates transposed the category axis labels with the legend labels and vice versa so the labels *Literacy* and *Mathematics* appeared in the legend and *Pre-school* and *No Pre-school* on the category axis.

Question 26

Candidates performed better in this task than in previous sessions with most candidates successfully controlling the value axis scale and increments. A few candidates did not attempt to change the scale with the default increments of 10 and a maximum value of 60 seen. Occasionally the minimum value was set at –4 with increments of 10.

Question 27

Most candidates placed the chart to the left of the bullets on the correct slide. A small number placed the chart to the right or below the bulleted text. Some candidates right aligned the bulleted text on this slide and as a result lost the consistency of presentation required across all slides. When the chart was positioned correctly the data and labels were usually fully visible and the chart did not overlap other slide items.

Question 28

Creating an arrow-shaped action button was generally well done and most placed this in the bottom-right corner of the correct slide. Some candidates inserted a pre-set action or home button that was a completely different image or shape to that shown on the question paper. Very few candidates formatted the action button to look like the question paper with the shape not having a thick outside border and it often contained a background fill. Evidence of the hyperlink applied to the action button was often inconclusive. Many candidates only captured screenshot evidence of the *Edit hyperlink* dialog box which showed the linked file, but the action button was not seen so there was insufficient evidence that the link was applied to the action button. A small number of candidates produced no screenshot evidence of the hyperlink. Some candidates linked the text within the shape instead of applying the link to the shape.

Question 29

Most candidates printed the full presentation as handouts in portrait orientation with two slides to the page with each filling half the page. A small number of candidates printed individual full-page slides.

Task 5 – *Printing the Evidence Document*

Some candidates did not submit a printout of the Evidence Document. It is essential that candidates print their Evidence Document towards the end of the examination time, regardless of whether they have finished the paper. Candidates should make sure that their screenshots are large enough for the evidence to be legible and that cropping/resizing has not removed essential evidence.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/22
Practical Test

Key messages

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

- Candidates need to understand the importance of following the instructions on the question paper.
- Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types and select a named font for the type specified.
- Candidates must take care to enter accurately text in bold on the question paper.
- Candidates must use proofing techniques to identify errors and ensure consistency of presentation in all their work.
- Candidates must retain existing styles applied to the source file document text.
- Candidates must be able to distinguish between the database page header/footer area and the report header/footer area and understand which is appropriate to use.
- Candidates must make sure their hyperlink screenshot evidence captures both the linked image and the open hyperlink dialogue box.
- Candidates must make sure they include their identification details in tasks before printing as instructed on the question paper.
- Candidates must ensure their screenshots capture all the required evidence.
- Candidates must produce legible screenshots which show the outcome of an action rather than the skill process.
- Candidates must printout the Evidence Document as this contains supporting evidence that could substantially improve their grade.

General comments

The majority of candidates completed or attempted all elements of the paper. The paper gave a good spread of marks and candidate performance was slightly better than previous sessions. Overall, the candidates appeared to be well prepared for the examination and most showed a good level of skill.

Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types. These are not the actual names of font styles but categories of font type with specific attributes. Candidates must be able to select an appropriate font for the font type specified.

Text to be entered by the candidate as part of a task is displayed in bold on the question paper. Marks are available for accurate data entry of this text which must be keyed exactly as shown, including punctuation and capitalisation. Candidates are advised to carefully check their data entry to ensure it matches the text on the question paper. Common errors include incorrect capitalisation, incorrect or missing characters, omission of spaces, truncated headings and superfluous punctuation.

Candidates are instructed to produce screenshots to evidence the ICT skills that cannot be assessed through the printed product alone. These screenshots must display the outcome of an action and not the process, for example, the saved word processing document must be seen in the file list within the folder, capturing the '*Save As*' dialogue box is inconclusive as the save process is incomplete. A particular issue at this session was screenshot evidence that was too small and/or faint to be read even using magnification devices. Candidates must ensure that all screenshots can be easily read with the naked eye. Candidates must make sure their screenshot captures all the required evidence and care should be taken when cropping screenshots to ensure crucial elements are still shown such as primary keys and all fields in the database table structure.

The question paper prompts candidates to include their name, centre number and candidate number on all tasks prior to printing. Without clear printed evidence of the author of the work, marks cannot be awarded. It is not acceptable for candidates to annotate their printouts by hand as there is no real evidence that they are the originators of the work.

Some centres are still submitting stapled work which is not permitted. Hole-punching work and securing it with treasury tags or string is permitted but care should be taken not to obscure text with the punch holes. Centres should return the Supervisor's Report Folder with the candidates' work. This identifies the software used and can be helpful if issues were experienced during the practical test. The candidates' work must be submitted in the original hard-copy printed Assessment Record Folders that are provided to centres. Printed or photocopied Assessment Record Folders should not be used.

Comments on specific questions

Task 1 – *The Evidence Document*

The evidence document was used by most candidates to store screenshot evidence as instructed. Some candidates did not achieve marks as their screenshots were difficult or impossible to read as the evidence was too small or faint even with magnification devices. Essential information had been cropped out of some screenshots. Some candidates did not place their screenshots under the correct step number heading which on occasions made it difficult to locate the correct evidence. A small number did not print identification details on every page of the document so marks could only be awarded for pages where the identification details were printed. A small minority did not present the evidence document for marking.

Task 2 – *Document*

Question 1

All candidates opened the correct file and most saved it correctly with the required file name although some did not enter the file name in capitals, or it contained data entry errors. A few candidates incorrectly saved the file in the original RTF format rather than the format of the word processing software being used. Most candidates produced a screenshot of the folder contents after the file had been saved which provided the evidence required. In some instances the save evidence was inconclusive as it showed the save in process rather than capturing the folder contents showing the outcome of the save. Most candidates retained the page setup settings as instructed.

Question 2

Headers and footers were generally inserted and aligned as instructed. A few candidates did not enter the header text given and those that did often had data entry or capitalisation errors. Some candidates did not leave a space after the colon or inserted their identification details on a separate line instead of following the colon. Occasionally candidates omitted their centre number and/or candidate number from the header details and sometimes their details wrapped to the left on a second line so right alignment of the header was not maintained. A few candidates inserted the header text in the body area so it did not appear in the header area on every page. Occasionally page numbers were omitted from the footer or an automated field had not been used with the keyed number 1 appearing on all pages. Occasionally, the header/footer items did not align with the page margins on all pages. Candidates who used the built-in content control to align the items did not always remove superfluous text or placeholders in the header or footer areas.

Question 3

Most candidates applied two equally spaced columns to the correct text, with the required spacing between the columns. Some candidates included the last two paragraphs in their selection or displayed the entire document in two columns, therefore not controlling the display of the columns. A few candidates left the space between columns at the default or set it much larger than 1 centimetre. The initial column break was occasionally positioned below rather than above the first subheading. Occasionally, a page break was inserted instead of a section break. The final full stop was not always included in the column selection.

Question 4

Most candidates correctly modified the pre-defined *TAC-subhead* style but did not always produce screenshot evidence to show all the modifications. The amended style did not always match the specification given as the underline and/or capitalisation were not removed from the original style definition. A few candidates incorrectly created a new style from the information provided and therefore did not evidence the skill of modifying a pre-defined style. This style had already been applied to the four subheadings in the source file, so the modifications made were automatically reflected in the document.

Question 5

Most candidates sorted the bulleted list accurately. A few candidates did not attempt the sort, and some lists were partially sorted with the last two items '*trips'* and '*travel'* in the wrong order suggesting the list had been rearranged manually instead of using an automated sort.

Question 6

Most candidates successfully indented the bullets the required distance from the left margin. Occasionally the text instead of the bullets was indented or the indent was much larger than 1.5 centimetres.

Question 7

Most candidates imported the correct image and positioned this in the correct paragraph. Occasionally the image was missing or positioned incorrectly.

Question 8

The majority of candidates applied text wrap to the image. A number of candidates did not align the image to the bottom right of the paragraph. Most candidates created a hyperlink from the image, but this was occasionally linked to a file instead of an email link. The email address and subject line occasionally contained data entry errors, particularly in the spelling of the word '*Bursary'*. Evidence of the hyperlink applied to the image was often insufficient as the screenshot did not show the image as well as the open hyperlink dialogue box. A few candidates produced no screenshot evidence of the hyperlink.

Question 9

Most candidates deleted the correct column from the table. A few candidates deleted the data in the column but left the empty column in place.

Question 10

Most candidates formatted the first row of the table, so the text was centre aligned over the three columns and applied a light grey background fill. Occasionally the grey fill was applied to the text and not as a background fill to the cell. A few candidates centred the text in the first cell but did not merge the cells. A minority of candidates merged and applied a fill to the first column instead of the row, and a few applied the fill to the whole table.

Question 11

Most candidates displayed the text on one line with the table data and borders fitting within the column width. A few candidates did not adjust the column widths to display the data on one line and the table did not always fit within the column width.

Question 12

In most cases, there was evidence of good proofreading and document presentation skills. Most documents were presented in portrait orientation with the table and/or list rarely split over columns or pages. The columns and pages were not always aligned at the top and occasionally there was a widow or orphan with a single line of text, or a subheading left at the top or bottom of a column or page. Some candidates incorrectly made changes to the formatting of pre-defined styles already applied to the document text. This was mainly seen with the table style where the font style and/or size had been changed and the body style where full justification, line spacing and paragraph spacing had been changed often resulting in inconsistent spacing between paragraphs. No changes should be made to the pre-applied styles in the source file unless instructed to do so. The page margins were not always consistent with the column section often indented further than the page margins resulting in uneven page margins.

Task 3 – *Database*

Question 13

Importing the csv files and setting the primary keys were usually well done. Some candidates did not set the data types as given on the question paper such as the Boolean field set as currency and the date fields not imported in DMY format resulting in some missing dates. The Boolean field often displayed a tick box, True/False or –1/0 instead of displaying as Yes/No, the date field was often not formatted to display the date as dd-MMM–yy and the currency field was occasionally set as integer, so the values were rounded. Screenshot evidence was sometimes cropped so not all 11 fields were shown in the students table. Occasionally screenshot evidence was provided for one database table only. A few candidates provided screenshot evidence of steps in the Import wizard which did not always show all the data types, or the primary keys set.

Question 14

Most candidates created a relationship between the tables, but the screenshot evidence supplied did not always provide sufficient evidence of a one-to-many relationship. A screenshot of the relationship dialogue box will evidence the relationship type. The relationship diagram will only be credited if it shows the single and one-to-many infinity symbols confirming the relationship type.

Question 15

Most candidates entered the new record in the correct table. The new record occasionally contained data entry or capitalisation error. Candidates did not achieve the marks if they overwrote the first record in the students table instead of entering this data as a new record.

Question 16

The first report used fields from both tables and was done well by candidates who attempted this question. The report title was usually entered in a larger font size at the top of the report but occasionally contained data entry or capitalisation errors or displayed additional text such as '*Query 1*' in the title area. The '*g*' descenders on the title were not always fully visible if the text box had not been adjusted to accommodate the larger font size. The new field heading was usually entered accurately with only a few omitting the underscore or more commonly having capitalisation errors. The calculation was generally completed well but the new data was not always formatted to display a currency symbol and 2 decimal places and/or the currency symbol was inconsistent with the *Course_cost* field. The search on two criterion was completed well by most although occasionally only the *Cheque* records were displayed. The sort was not always set for both fields and the *Course_name* field often in ascending instead of descending order. Most included the correct fields, but these were not always in the correct order particularly where the sort order had been set during the creation of the report which automatically places the two sort fields as the first two fields. Setting the sort order in the report structure after the report has been created will help prevent these issues. Data in one or more fields, usually *Course_name* and/or *Last_name*, was often truncated and required some manipulation to ensure all data was fully visible. Identification details were often entered in the report footer, so they only appeared on the last page of the report rather than in the page footer, so they printed at the bottom of every page. Most presented the report in landscape orientation with the fields and data fitting a single page wide but only a limited number of candidates manipulated the data, so it printed on two pages only.

Question 17

The second report involved the production of labels. Although an improvement in the creation of labels was seen on this paper many found this task challenging. A few candidates presented the labels as a tabular report and therefore only achieved the search and sort marks. Few candidates managed to select labels of the correct size with 2 columns and 5 rows and 10 labels to the page. Candidates can select the correct label size from the standard pre-set label sizes or create custom labels based on the measurements given. The selection of data was generally done well with most candidates finding the correct records. A few candidates incorrectly searched for courses ending with *'*crop'* instead of a wildcard search containing *'*crop*'*. Most candidates included the correct fields in the correct order, but these were not always on the correct lines, and many did not leave a space between fields on the same line or omitted the punctuation and spacing that needed to be entered. A few candidates attempted to include the field headings with the data which was acceptable but often resulted in truncated record data as it was difficult to display all this data within the width of the label. Formatting only the first two lines so they were centred, bold and in a larger font size was generally done well. A small number of candidates centred every line on the label or only applied the formatting to the first line. Occasionally the data in the first two lines was vertically truncated as the data box had not been adjusted to accommodate the larger text size. Candidate identification details were often placed in the page header or footer so did not appear on every label and where they were on every label, they occasionally were not left aligned. Sorting on a single field was generally well done.

Task 4 – *Printing the Evidence Document*

Some candidates did not submit a printout of the Evidence Document. It is essential that candidates print their Evidence Document towards the end of the examination time, regardless of whether they have finished the paper. Candidates should make sure that their screenshots are large enough for the evidence to be legible and that cropping/resizing has not removed essential evidence.

Task 5 – *Presentation*

Question 18

Most candidates successfully imported the six slides and presented each as a title and a bulleted list. A small number of candidates imported the data but did not display bullets on the slides. Occasionally the alignment of the bulleted text on the chart slide had been changed to right aligned making it inconsistent with the other slides. Marks were not awarded where incorrect software had been used such as the RTF file opened, manipulated and printed in word processing software.

Question 19

Displaying the master slide items in a consistent position on every slide proved challenging for some candidates. It was fairly common for one or more of the master slide items to be missing from slide 1 or to be in a different position to the other slides. Drawing a thick line across the width of the slide above the slide titles was not always completed well. Common issues included not drawing the line on the slide master, so it only appeared on slide 1, the line not extending across the full width of the slide, the line drawn below the slide titles, the width of the line not increased to 3 to 4 points, or no attempt made at drawing the line. The text *Organic Crop Farming* was often missing or not entered with initial capitals, it was not always in a 32-point font size or right aligned, it occasionally contained data entry or capitalisation errors, and it wrapped or overlapped the drawn line. Most candidates applied automated slide numbers although these were not always positioned on the top left. Candidate identification details were accepted in any consistent position on the master slide. Occasionally the identification details were placed in the page header instead of the slide header, so they did not appear on every slide. Built-in slide designs can be used but often apply a different layout to slide 1 so candidates must ensure the design chosen meets all the requirements of the question paper.

Question 20

Most candidates created a vertical bar chart. A few charted all the data instead of demonstrating their ability to select non-contiguous data. Occasionally a horizontal or stacked chart was produced. Usually, the legend correctly displayed the years with the regions on the category axis. Occasionally the legend contained the title text as well as the years. The values were not always present on the value axis and a small number of candidates displayed values 1 to 6 on the category axis instead of the region labels.

Question 21

The chart title was usually entered in the correct position but occasionally contained data entry and/or capitalisation errors, or words were omitted completely. Most included the value axis title although occasionally this was entered as the category title. The text '*Million'* was often keyed as '*Millions'* and '*hectares'* often contained an initial capital and/or was spelt incorrectly.

Question 22

Displaying the values as data labels above each bar was completed well by most candidates. Occasionally the data labels were displayed above one set of data only. These values were often not displayed to 1 decimal place, or this formatting was set for one set of data only. Occasionally the labels were incorrectly positioned on the bars making the values difficult to read.

Question 23

Most candidates successfully controlled the value axis scale and increments. A few candidates did not attempt to change the scale with 0 to 40 and increments of 5 commonly seen.

Question 24

Most candidates placed the chart to the left of the bullets on the correct slide. A small number placed the chart to the right or below the bulleted text. Some candidates right aligned the bulleted text on this slide and as a result lost the consistency of presentation required across all slides. When the chart was positioned correctly the data and labels were usually fully visible and the chart did not overlap other slide items.

Question 25

The creation of presenter notes was generally done well on this paper. A few incorrectly entered the presenter text as a bulleted item on the slide, inserted the text as a comment or placed the text in a text box on the slide. The most common error was the omission of the full stop at the end of the sentence. The text occasionally contained other data entry errors such as '*farmers'* keyed as '*farmer'* and '*world'* as '*word'*. Most candidates printed only this slide as presenter/speaker notes although a few were unable to control the printing and printed all the slides in presenter note format. A few candidates printed a full-page single slide instead of presenter notes format.

Question 26

Most candidates printed in portrait orientation with six slides to the page. It was not uncommon for some candidates to print six single full-page slides or with two slides to the page.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/31
Spreadsheets and Website Authoring

Key messages

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

- Candidates need to understand the importance of following the instructions on the question paper.
- Candidates need to ensure that all printouts can be clearly read by an examiner without the use of a magnification device.
- Candidates need to ensure that in a spreadsheet, the contents of all column widths are fully visible.
- Candidates need to be able to identify which spreadsheet function is the most appropriate for a task.
- Candidates must ensure that they include their candidate details in the correct place on all printouts.
- Candidates need to take greater care with the accuracy of data entry.
- Candidates need a better understanding of the syntax of both CSS and HTML and apply each appropriately, particularly ensuring that external cascading stylesheets do not contain any HTML.

General comments

There were significant differences in the range of results from centre to centre and from candidate to candidate within Centres.

Candidates need to ensure that the text within the markup, stylesheet and spreadsheet printouts is large enough to enable Examiners to read the work, without the use of magnification devices.

Comments on specific questions

Question 1

The file was used and saved with the correct file name by most candidates. Some candidates had case errors in the file name. Almost all candidates placed their name, centre number and candidate number left aligned in the footer.

Question 2

Most candidates used a VLOOKUP or XLOOKUP function for this step. As the data to be ‘looked up’ in j2431divers.csv was not sorted into order, a LOOKUP function was not appropriate for this task. Most candidates who selected the correct function selected cell B35 for the lookup but not all selected the correct range. Most candidates replicated this formula down to row 75.

Question 3

This was completed well by many candidates using a COUNTA function. Some candidates used an alternative method with a COUNT function identifying that the dates in column A were stored in numeric format.

Question 4

This step was performed well by many candidates using a COUNTIF function and the range E35:E75 (with either absolute or relative references). Not all candidates identified the text 'Yes' as the final parameter, some referencing a cell within the range given (where the data may change).

Question 5

This was performed well by a number of candidates using the COUNTIFS function with ranges in columns E and F and the condition 'Yes' for each. Some candidates attempted only part of this using a COUNTIF function with one of the correct ranges and the correct condition. A number of candidates found this challenging and attempted this with a range of other functions such as COUNT, SUMIF, AVERAGEIF and even COUNTBLANK.

Question 6

Due to an issue with this question, its treatment in marking was considered carefully to make sure that no candidates were disadvantaged. This issue been corrected in the published version of the source files and mark scheme. This question performed well by a number of candidates using the COUNTIFS function with three different ranges and conditions. Where candidates had used this function (or COUNTIF for part of this) the range of D35:D75 was frequently correct, although fewer candidates set this as an absolute reference. Most used the cell in column A set as a relative reference (starting with A9) as the condition, although a number of candidates had not created replicable formulae and entered text like "Maracaibo" as the condition, editing this text to match the reef name from column A in each row. Most candidates used the references and conditions that they had used in step 5, although not all set the ranges as absolute references to ensure that the formulae were replicated correctly. Most candidates replicated their formulae as specified.

Question 7

Many candidates produced a spreadsheet with identical formatting for the top of the spreadsheet to the image shown in the question paper. The more frequently found errors and omissions included:

- cells A1 and B1 were not merged across the 2 columns as shown in the diagram
- cells B7 and B8 were not merged into a single cell
- cells within the range A3 to A5 and A9 to A10 were not right aligned
- text in the merged cell B7 was not wrapped as shown.

Question 8

Most candidates produced a formula printout in landscape orientation with the cell contents fully visible. Not all of these displayed the row and column headings. A significant number printed more than the cells in the range A1 to C75 as specified in the question paper.

Question 9

The selection of the rows where the cells showing the number of sightings that did not contain zero appeared challenging to many candidates. Some attempted to manually hide or delete rows, other sorted the data rather than selecting the rows. A number of screen shots of the selection method did not show sufficient detail – showing the filter symbol but not the actual selection itself either with the tick boxes or the numeric criterion used. The printout of the spreadsheet was completed well by many candidates, but row and column headings were often omitted. A number of candidates printed multiple pages with a few rows on each page as their attempt at selection.

Question 10

Many candidates completed this question well. Some candidates did not include the folder name in their printout, often because they had 'over-cropped' the screen shot. Other candidates did not include the image dimensions in their printout.

Question 11

Most candidates created the required web page and saved it with the specified file name. Almost all candidates set a single table and omitted the letters as instructed in the question paper, but fewer candidates ensured that borders were not visible on the page. A number of candidates set the table width to 100 per cent rather than the required 85 per cent. Appropriate cells had the rowspan or colspan set to 2 by the majority of candidates but setting the height of the first row or relative width of the cells in the second and subsequent rows was not completed as specified by as many candidates.

Question 12

Many candidates completed this step as instructed, although some did not place the title in the head section. A number of typographical errors were seen in the title text. A small number of candidates left the webpage title as 'untitled'.

Question 13

Many candidates completed this step as instructed, placing the correct text in the correct cells, although a number of typographical errors were seen, particularly with the spelling of 'endangered'. Most candidates who entered this text set it in style h1.

Question 14

This question was answered well by most candidates.

Question 15

Almost all candidates who submitted a web page placed the correct images in the correct cells.

Question 16

This task proved challenging for many candidates. It is not sufficient for candidates to use text like the file name as alternate text. This alternate text is so that if the image is not displayed a user can understand what is present and for partially sighted users to be able to understand/select an image using a text reader. In this paper two of the images were used as buttons to select the location or to contact the company so as a minimum these images should mention they are buttons/hyperlinks/methods of selection and a description of where the button directs a user or the purpose of the button.

Question 17

Most candidates who submitted a web page placed the text in the correct cell with the appropriate paragraph style.

Question 18

Most candidates attached the stylesheet to the web page, a small number did not place it in the head section. Some candidates erroneously used a file path within the hyperlink reference which would work on the file structure of their computer but would not work when the web page was uploaded to a web server.

Question 19

Many candidates created the new stylesheet and attached it to the web page with higher priority than the stylesheet added in step 18. Again, as in step 18, a number of these included file paths so would be unlikely to work when the web page was uploaded. Some candidates submitted CSS stylesheets containing HTML. It is important that candidates understand the differences and syntax of both languages. A number of candidates did not use the correct syntax when placing their name and candidate details at the top of the stylesheet, a small number placed these details elsewhere in the stylesheet. Many candidates used the background-image, background-repeat and background-position declarations with the correct values but not all of these candidates placed this within the body selector. Likewise, there were many attempts to right align the table in the browser window that did not use the table selector. Those candidates who correctly used the table selector often set margin-left:auto and zero for the margin-right declaration.

Many candidates gained full marks when setting the styles for h1, h2 and the paragraph style. Most candidates placed speech marks around **Times New Roman** as required by browsers. Some candidates placed the fonts in the wrong order. Most candidates set the default **serif** font as specified, although some erroneously placed this in speech marks which ensured the browser looked for a named font rather than the generic font style. Fewer candidates set each of these elements (and the font-weight) with a single selector to ensure that the CSS was as efficient as possible. Most candidates correctly fully justified the paragraph style using a single selector for this.

Question 20

Most candidates printed the browser view of the page but some did not show the address bar. A number of candidates produced screen shots from their WYSIWYG HTML editor which did not allow examiners to see that images were displayed in the correct cells in a web browser, therefore they gained less marks from the screen shot of the web page.

INFORMATION AND COMMUNICATION TECHNOLOGY

Paper 0417/32
Spreadsheets and Website Authoring

Key messages

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

- Candidates need to understand the importance of following the instructions on the question paper.
- Candidates need to ensure that all spreadsheet column widths are wide enough to display the data/formulae whilst using a font size large enough to enable examiners to read the work, without the use of a magnification device.
- Candidates need to be able to identify which spreadsheet function is the most appropriate for a task.
- Candidates need a better understanding of html syntax, particularly the appropriate use of head and body tags.
- Candidates need a better understanding of the mailto: attribute and including a subject line in their email preparation.
- Candidates should not include file paths in any links or references to images.
- Candidates must ensure that they include their candidate details in the correct place on all printouts.
- Candidates need to take greater care with the accuracy of data entry.
- Candidates need to ensure that they have included their formulae and html printouts.

General comments

There were significant differences in the range of results from centre to centre and from candidate to candidate within centres.

Candidates must ensure that the text within the markup, stylesheet and spreadsheet printouts is fully visible and large enough to enable examiners to read the work, without the use of magnification devices.

Comments on specific questions

Question 1

The file was used and saved with the correct file name by most candidates, although not all candidates saved their work as a spreadsheet with a number of files still saved in .csv format. Some candidates had case errors in the file name. Almost all candidates placed their name, centre number and candidate number centre aligned in the header. Fewer candidates placed the specified text followed by the automated date, the text and the automated time in the footer with correct spacing.

Question 2

Most candidates used a VLOOKUP or XLOOKUP function for this step. As the data to be ‘looked up’ in j32giraffe.csv was not sorted into order, a LOOKUP function was not appropriate for this task. Most candidates who selected the correct function selected cell B29 for the lookup but not all selected the correct range ($A$2:$C$2) so that it did not include the labels or additional cells.

Question 3

Most candidates used a VLOOKUP or XLOOKUP function for this step. As the data to be 'looked up' in j32giraffe.csv was not sorted into order, a LOOKUP function was not appropriate for this task. Most candidates who selected the correct function selected cell B29 for the lookup and the correct range with the sixth column selected and a false parameter to give an exact match.

Question 4

Most candidates successfully replicated the formulae placed in steps 2 and 3 down to row 98.

Question 5

This was completed well by many candidates using a COUNTA function and correct range. Other more elaborate formulae were seen that also produced the correct result.

Question 6

This was performed well by a number of candidates using the COUNTIFS function with: ranges in columns F and G and the conditions 'Critically endangered' and 'Yes' respectively. Some candidates attempted only part of this using a COUNTIF function with one of the correct ranges and the correct condition. A number of candidates found this challenging and attempted this with a range of other functions such as COUNT, SUMIF, AVERAGEIF and even COUNTBLANK. Some candidates replaced the condition 'Critically endangered' with a reference to the cell $A$6. This was accepted by examiners as the text in this cell was unlikely to change, despite the fact that this cell and its contents were not added until step 7 of the question paper.

Question 7

Most candidates inserted the new row and the text as specified although there were a number of typographical errors seen in the data entry.

Question 8

This was performed well by a number of candidates using the COUNTIFS function with two different ranges and conditions. Where candidates had used this function (or COUNTIF for part of this) the range of E29:E98 was frequently correct, although fewer candidates set this as an absolute reference. Most used the cell in column A set as a relative reference (starting with A8) as the condition, although a number of candidates had not created replicable formulae and entered text like 'Botswana' as the condition, editing this text to match the country name from column A in each row. Most candidates used the range F29:F98 and the condition 'Critically endangered' for the second element as they had in step 6. Most candidates replicated this formula down to row 26.

Question 9

Many candidates produced a spreadsheet with identical formatting for the top of the spreadsheet to the image shown in the question paper. The more frequently found errors and omissions included:

- cells A1 and B1 were not merged across the 2 columns as shown in the diagram
- cells A6 and B6 were not merged into a single cell
- cells within the range A3 to A4 and A8 to A10 were not right aligned
- cells in column B and/or row 7 were not centre aligned
- text in one of the merged cells A1 and A6 was not wrapped as shown
- the contents of some cells were not vertically aligned as shown.

Question 10

Most candidates produced a formula printout in landscape orientation with the cell contents fully visible. Not all of these displayed the row and column headings. Some fitted the whole printout onto one or two pages for economy of paper. This ran the risk of producing too small print for easy reading and checking. It also risked some columns not being wide enough to show formulae in full. Other candidates printed in full size and spread over an unnecessarily large number of pages which produced many pages which contained little material.

Question 11

The selection of the rows where the cells showing the number of sightings that did not contain zero appeared challenging to many candidates. Some attempted to manually hide or delete rows, others sorted the data rather than selecting the rows. A number of screen shots of the selection method did not show sufficient detail – showing the filter symbol but not the actual selection itself either with the tick boxes or the numeric criterion used. The printout of the spreadsheet was completed well by many candidates, but row and column headings were frequently omitted from the printout.

Question 12

Many candidates completed this question as required. Some candidates did not include the folder name in their printout, often because they had 'over-cropped' the screen shot. Other candidates did not include the image dimensions and/or the frame height and frame width of the video in their printout.

Question 13

Most candidates created the required web page and saved it with the specified file name. Almost all candidates set a single table and omitted the letters as instructed in the question paper, but fewer candidates ensured that borders were visible on the page. A number of candidates set the table width to 100% rather than the required 75%, presumably because this was the default setting of their WYSIWYG web authoring package. Appropriate cells had the rowspan or colspan set to 2 by the majority of candidates.

Question 14

Many candidates completed this step as instructed, although some did not place the title in the head section. Several typographical errors were seen in the title text.

Question 15

Almost all candidates who submitted a web page placed the correct images in the correct cells. Fewer candidates placed the video as specified using the video tag as specified in the question paper. A significant number of candidates who used the video tag also used an appropriate source tag and placed the automated text-based error message between the <video> and </video> tags. Controls were frequently seen although fewer candidates set the video using the autoplay attribute. Despite clear instructions to use the video tag a significant number of candidates offered solutions using the object tag.

Question 16

Many candidates completed this step as instructed, placing the correct text in the correct cells, although several typographical errors were seen. Most candidates set the text into style h3. Some of these candidates did not place the candidate details on a new line either with a second <h3> tag or using the <br> tag.

Question 17

Most candidates who submitted a web page placed the text from j32text.txt in the correct cell; most also setting this text into style p.

Question 18

Most candidates attached the stylesheet to the web page, a small number did not place it in the head section. Some candidates erroneously used a file path within the hyperlink reference which would work on the file structure of their computer but would not work when the web page was uploaded to a web server.

Question 19

Some candidates found this to be a challenging task. Some did not place the anchors around the specified images, j32what.jpg and j32contact.jpg, often omitting the close anchor tag. Some candidates placed the anchors correctly then reversed the links so that the wrong links were on the wrong images. Other candidates set the hyperlink to j32what.htm but did not set a new window as specified in the question. Some candidates set a mailto: attribute with the correct email address but did not include the subject line. A significant number of candidates erroneously included file paths in either the link to the webpage or the images used to link from.

Question 20

Most candidates printed the browser view of the page but some did not show the address bar. A number of candidates produced screen shots from their WYSIWYG HTML editor which did not allow examiners to see that images were displayed in the correct cells in a web browser, therefore they gained less marks from the screen shot of the web page. A number of candidates omitted the HTML from their Evidence Document or only provided a link to the file.