# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/11**
**Theory 11**

## Key messages

The paper was more challenging for the candidates than in previous sessions. This was evident in the higher number of nil responses, where candidates did not attempt to answer the questions. The reason for this is unclear, as the influence of the pandemic would have diminished. This made the paper difficult to analyse.

The marks for the paper ranged from 1 to 64, with a skew towards the lower end. The paper covered a wide range of topics, including both previously covered topics and new topics. The balance of technical and general questions was good, so it was surprising that there were no responses from the whole range of areas, not just the harder questions. This year's paper had fewer marks available than previous papers, with 80 marks instead of 100.

It is important for candidates to read the question carefully before answering it, as marks are awarded for answering the question that has been set. In this session, candidates who performed well used specific and detailed language when replying to 'describe' and 'discuss' type questions. The number of answers that split the response into advantages and disadvantages (discuss/describe/compare) has decreased, as this type of layout may not give candidates enough scope to be awarded high marks.

As with previous series, there has been a trend of candidates using brand names for hardware and software, instead of generic names. This is not in accordance with the instructions on the front page of the examination paper, which state that "No marks will be awarded for using brand names of software packages or hardware systems." To avoid this issue in future exams, please use generic names for all hardware and software. This will help to ensure that all candidates are evaluated fairly, regardless of their familiarity with specific brands.

If a candidate needs to expand their answers on to other parts of the examination paper or onto extra sheets, they should clearly indicate where the extra part is written and write the question number on the extra work. This is because 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

This paper gave candidates the opportunity to demonstrate their knowledge and understanding of a wide variety of topics.

For questions that indicate a specific number of answers, candidates should only write one answer in each allocated space. Any extra answers placed below the numbered responses will not be marked.

To receive full credit, candidates should provide clear and concise answers that explain their reasoning. A good rule of thumb is to start each answer with "because" and then state the reason. All answers should be relevant to the question being asked.

In past examinations, many answers were based on rote learning. In this session, however, candidates' answers were more likely to be based on their own experiences with home-based devices.

**Comments on specific questions**

**Question 1**

This question was a tick box question that should have been straightforward. However, some candidates may have found it challenging because bar codes in previous series have been depicted as integers. This question included an X, which is not an integer, so the answer should have been "Text". Unfortunately this was also due to candidates not reading the question carefully before placing their answers.

**Question 2**

This question related to internal hardware. **Parts a** and **b** were answered batter by candidates than **parts c** and **d**.

**(a)** This part of the question was quite well answered by many candidates. However some candidates confused RAM with ROM.

**(b)** As with **part a** this part of the question was quite well answered

**(c)** The Examiners allowed other examples for this question including GPU and video card. This was quite a challenging question even with the other allowable answers with few candidates giving the correct answer. The question stated that the answer was a printed circuit board but some candidates wrote monitor or even speaker.

**(d)** As with **part c** this was also a very challenging part of the question. Many candidates failed to attempt to the question and of those that made an attempt some wrote wifi, hub, LAN and even email. The correct answer was Network Interface card, again the question stated that the answer was a printed circuit board.

**Question 3**

This was another challenging question for most candidates. The question asked how photographs could be transferred onto a school network. The type of answer expected by the Examiners were cables, Bluetooth or wifi. The Examiners in this session allowed email as a correct answer but this may not be the case in future series. Some candidates wrote unclear answers like cloud which could not be awarded marks as the question required some explanation like downloading from the cloud.

**Question 4**

This question related to the internet and was very challenging for most candidates.

**(a)** This was a technical question relating to web browsers and was very challenging. As many candidates were struggling to be awarded good marks on this question the Examiners allowed more lenient answers, although this may not be the case in future series. The Examiners allowed more generic answers like 'the web browser displays the web page' rather than the more technical answers like 'Rendering the web page to view'. Even with the more generous marking this was still a very challenging question for most candidates. Some candidates thought the question was about search engines and therefore gave answers relating to searching for information.

**(b)** As with the previous part of this question this was also very challenging for most candidates. Many candidates mixed up the intranet with the internet and therefore could not give correct differences. With this type of question candidates need to clearly show the difference between the intranet and the extranet to be awarded the mark. Some candidates correctly identified that the intranet was private but that the extranet was public.

**Question 5**

This question related to safety issues in using computers. The question as a whole was challenging for candidates. This topic was not a new topic and had been set many times in the past. In some cases candidates thought that the safety referred to damaging the equipment rather than the user.

**(a)**     Some candidates misread the question and gave answers like the computer would stop working. This was a challenging question for many candidates. Some candidates gave electrocution as the correct answer.

**(b)**     Surprisingly this was also a challenging question for most candidates. Some candidates were able to give the correct answer which was fire although some gave explode.

**(c)**     This was the best answered part of the question with most candidates able to give the correct answer.

**(d)**     As with much of this question most candidates found this part challenging. Many thought that the safety aspect related to the breaking of the device rather than hurting the person.

**Question 6**

This question was well answered by many of the candidates. Most candidates were able to be awarded at least four marks.

**(a)**     Many candidates were able to score good marks on this part of the question. Candidates appeared to understand the concept of strong passwords.

**(b)**     As with **part a** this part of the question was also well answered by most of the candidates.

**Question 7**

As with previous questions this question was very challenging for candidates.

**(a)**     This topic had been set many times in the past and therefore it was very surprising to see that this was a very challenging topic. The answers the Examiners were looking for were observation, interview, questionnaires and reading existing documentation. Some candidates achieved all three marks whilst others struggled to be awarded one mark.

**(b)**     As with the previous part of this question this was also challenging with many candidates unable to understand how projects could be shared on the cloud. Some candidates thought that the document was only stored on the cloud.

**(c)**     This topic had been set many times previously and therefore it was very surprising that it appeared to be very challenging, with candidates only managing to be awarded a couple of marks out of the eight available. Even standard, general answers like it is cheaper rather than having to travel to the venue seem to have been missed. The Examiners were more generous on the marking pf this question, but this may not be the case in the future. The answers seem to relate to personal experiences of using video conferencing rather than the understanding of the topic.

**Question 8**

This topic on OMR and OCR systems had been set previously therefore it was very surprising that candidates found the topic very challenging.

**(a)**     Some candidates understood that OCR read characters and OMR read marks but struggled to convey this answer to show understanding of the topic. The used the words marks and characters which were in the questions. Other candidates explained their answers with examples without clearly showing they understood the differences between them.

**(b)**     A with **part a** this was also a challenging question even though the topic had been set many times before. Many of the answers given were on the correct lines and showed some understanding the answers given were very vague. Multiple choice answers were correct but marking exams were too vague.

**Question 9**

There was a similar pattern with other questions on this paper in that this question was also found to be challenging for many candidates. This topic on file paths and anchors is technical and can be difficult to answer by candidates even though the topic had been set previously.

**(a) (i)**    Very few candidates were able to be awarded a mark for this part of the question. This is a technical topic which can be challenging. This is a topic that needs to be taught and may not be in the candidates' general knowledge of computer systems.

**(ii)**    This question was better answered that the first part but still is challenged many of the candidates. A simple answer was that the hyperlink would not work, which was answered correctly by a few candidates.

**(b)**    Many candidates were able to be awarded at least one mark for this part of the question mostly for answering about the hyperlink rather than the anchor. Most candidates knew what a hyperlink was and attempted to explain what an anchor was.

**Question 10**

Many candidates were awarded at least two marks on this question about dialogue-based interfaces.

**(a)**    For those candidates that understood dialogue-based interfaces they were able to be awarded both marks. Many candidates were able to explain that the input to this system was using the voice.

**(b)**    This question was not as well answered as **part a** although there were some good answers given by candidates. Many of the answers lacked sufficient detail. Good answers tended to relate to the safety aspects of using a dialogue-based interface. Candidates tended to give more benefits of using the system rather than drawbacks.

**Question 11**

As with many questions on this paper candidates once again found this question challenging. This was a standard question about the use of portable solid-state drives rather than using portable hard disk drives. Many answers lacked detail for example SSD are smaller or quicker but then did not add a reason and therefore could not be awarded the marks as this was an explain question.

**Question 12**

Media streaming is an up-to-date topic that had not been set previously. However as this topic is popular across the world it was felt that candidates would find this question straightforward. However candidates found the topic challenging.

**(a)**    This part was answered better than **part b** with some candidates showing an understanding of streaming services. Some candidates answered the question from their own knowledge as opposed to taught knowledge. There were a larger number of trade names given as answers in this question. Many of the answers repeated the word streaming and therefore could not be given credit, others thought that it involved streaming live events on social media or they described TV broadcasting. These answers lacked detail and therefore could not be given credit in this question.

**(b)**    Having not understood what media streaming was, **part b** of this question then became more challenging. The most common correct answers were that the service was on demand or that it required the internet. Answers tended to be related to the candidates own experience rather than taught knowledge.

**Question 13**

Most candidates were able to be awarded a couple of marks on this question which was about file formats.

**(a)**     Many candidates were able to be awarded at least a mark for this question as they understood that a GIF was a moving image.

**(b)**     This part of the question was not as well answered as the first part even though some of the answers could have been used, with expansions from **part a**. As with **part a** candidates understood the gif format better than the jpg format.

**(c)**     This question asked how the file size of an image could be reduced, many candidates answered a question about reducing the size of the image. This gave answers like cropping or reducing its height and width. The answer the Examiners were looking for were compressing the image or reducing its resolution. Some candidates gave good answers to the question.

**Question 14**

As with much of this paper many candidates found this question challenging when the topics had been set before and the answers should have been straightforward.

**(a)**     The correct answer was proofreading but few candidates gave this answer, mixing it up with verification.

**(b)**     This was the best answered part of the question. The answer was validation although the Examiners allowed an example of validation.

**(c)**     The answer to this part of the question, with few candidates writing verification. However candidates were able to describe the process and marks.

# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/12**
**Theory 12**

## Key messages

This paper was in line with the difficulty of previous years and tested the candidates in several ways.

The marks for the paper showed a healthy range. The paper covered a wide range of topics, including both previously covered topics and new topics. The balance of technical and general questions was good, so it was surprising that there were no responses from the whole range of areas, not just the harder questions. This year's paper had fewer marks available than previous papers, with 80 marks instead of 100.

It is important for candidates to read the question carefully before answering it, as marks are awarded for answering the question that has been set. In this session, candidates who performed well used specific and detailed language when replying to 'describe' and 'discuss' type questions. The number of answers that split the response into advantages and disadvantages (discuss/describe/compare) has decreased, as this type of layout may not give candidates enough scope to be awarded high marks.

As with previous series, there has been a trend of candidates using brand names for hardware and software, instead of generic names. This is not in accordance with the instructions on the front page of the examination paper, which state that "No marks will be awarded for using brand names of software packages or hardware systems." To avoid this issue in future exams, please use generic names for all hardware and software. This will help to ensure that all candidates are evaluated fairly, regardless of their familiarity with specific brands.

If a candidate needs to expand their answers on to other parts of the examination paper or onto extra sheets, they should clearly indicate where the extra part is written and write the question number on the extra work. This is because 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

This paper gave candidates the opportunity to demonstrate their knowledge and understanding of a wide variety of topics and most of the questions were attempted leaving very few blank responses.

For questions that indicate a specific number of answers, candidates should only write one answer in each allocated space. Any extra answers placed below the numbered responses will not be marked.

To receive full credit, candidates should provide clear and concise answers that explain their reasoning. A good rule of thumb is to start each answer with "because" and then state the reason. All answers should be relevant to the question being asked.

In some cases, the handwriting was difficult to read. This can make it difficult for Examiners to give full marks, as they may not be able to understand what the candidate has written. To avoid this, it is important to write clearly and legibly.

**Comments on specific questions**

**Question 1**

This question was well answered by most of the candidates.

**Question 2**

This question was well answered by the candidates with most be awarded at least two marks of the three available.

**(a)**       This produced the best rate of correct answers of the three parts to this question. Most candidates were able to give the correct answer. Some candidates gave the answer as RAM rather than ROM. The Examiners found that Those candidates who wrote the acronym carelessly felt it was difficult to differentiate the A for an O in the answer.

**(b)**       This question was quite well answered by most candidates. Some candidates misread the question which stated that the device provided input and output of audio signals. These candidates tended to answer with microphone or speaker.

**(c)**       This question was quite well answered by most of the candidates.

**Question 3**

This question proved to be very challenging for the candidates to answer. Many of the correct answers came from the fact that the camera was more portable, and that light could affect the image in a digital camera. To help the candidates the Examiners allowed a general answer that both were input devices. Many candidates repeated the question in that they wrote 'to convert the hard copy photographs into digital format'. Some candidates used a vertical line down the centre of the answer lines and answered digital camera on one side and scanner on the other. Due to the nature of the question this tended to be awarded few marks.

**Question 4**

This was quite a challenging question for most of the candidates.

**(a)**       This part of the question was quite challenging. Marks were awarded for stating the type of user that could be allowed to use an extranet i.e. vendors and customers and that it was a private network; in some cases these were the only marks that the candidates achieved on this part of the question.

**(b)**       As with the previous part of this question, this part was challenging for the candidates to answer. Some candidates drew a line down the centre of the answering lines and as a result a true comparison was not made therefore few marks were awarded. This has been reported back on previous reports. The better candidates made a good comparison in that the internet contained more information and was available for all to use whereas the extranet was restricted to members of the organisation and authorised users. As the question related to the extranet some candidates mixed up internet with intranet.

**Question 5**

This question was very well answered with most candidates be awarded full marks. This year the Examiners were more lenient in the types of answers awarded and this had an impact on the marking of the question. This leniency may not occur in future series.

**(a)**       Very well answered by most of the candidates, however not as well answered as **parts (b)** and **(c)**.

**(b)**       This part of the question was very well answered by most of the candidates.

**(c)**       This part of the question was very well answered by most of the candidates.

**Question 6**

This was a very challenging question with many candidates only managing to be awarded a couple of marks for the question as a whole. The question stated that the passwords were strong and could not be reused although some candidates gave answers that contradicted this.

**(a)**     This part of the question was better answered than **parts (b)** and **(c)** as candidates were able to use their own knowledge of changing passwords. Some candidates were awarded a mark for each of the elements but did not give enough detail for the second part of the element or repeated the words 'changed regularly' in the answer given. Some candidates thought that changing passwords regularly would crash the system even though it was written in the question that this was a rule within the organisation. The best answer that the candidates gave was that the user could forget the password and would then be locked out of the system.

**(b)**     This was a challenging part of the question. This was due to digital certificates being a hard topic for candidates to understand and that the topic had not been set for a number of series. These two factors were evident in the marks awarded. Some candidates misread the question and related their answers to the company rather than the website.

**(c)**     As with **part (b)** this part was very challenging for many of the candidates. Digital certificates is a difficult topic. Many of the answers given lacked sufficient detail for example name without specifying that it was the company name.

**Question 7**

Surprisingly this was a very challenging question with many candidates were only awarded a couple of marks. The question related to test data a topic which would have been tested in both the practical and theory parts of the syllabus.

**(a)**     This was a challenging part of the question. Candidates needed to give two examples of extreme test data and then state why they had used this test data. Some candidates gave explanations rather than test data and therefore struggled to give a reason. Those candidates that gave correct test data usually gave a good reason for example testing the boundaries of the formula. For this session the Examiners allowed the reason that the numbers given were at the boundaries if the two values were correct. This may not be allowed in future series.

**(b)**     Most candidates were able to be awarded at least a mark for this part of the question. This was usually for stating that the data tested the formula or that it generated an error message.

**Question 8**

Surprisingly this was a challenging question that asked candidates what web conferencing was and how it could be used. There were many references to named web conferencing software apps which cannot be given credit.

**(a)**     This part of the question asked what web-conferencing was and surprisingly few candidates were awarded full marks. It appears from the answers given that candidates know the trade name for these online conferences but not the generic name.

**(b)**     As with **part (a)** it was surprising that many candidates did not be awarded better marks on this part of the question as the candidate's personal knowledge could have been used. Common correct answers were that the conference would save transport costs and time and also it could be held anywhere. Some candidates misread the question, writing how they would set up a web-conference.

**Question 9**

**Question 9b** answered better than 9a but this was still a challenging question for many of the candidates. The question looked at RFID and bar codes.

**(a)**     As with the previous question on similarities and differences some candidates drew a line down the answer lines and split the answer. This does not allow for a true comparison therefore fewer marks are awarded. Some candidates answered the question referring to the RFID tags and bar codes rather than the readers. This was a comparison question and therefore needed answers that related to both types of reader.

**(b)**     This part of the question referred to the use of RFID and was better answered than **part (a)**. There were some good examples given and candidates were able to be awarded at least a mark. However some of the answers given were a little vague i.e. 'on a form' or 'in a supermarket'.

**Question 10**

This question was a technical question and therefore quite challenging for the candidates. The question referred to metatags and the topic had not been set for some time.

**(a)**     For those candidates that understood the topic they could be awarded at least two marks for this part of the question others seemed to guess the answer. The Examiners in this series allowed two examples of the name attributes and this had an impact on the marks awarded.

**(b)**     This part was answered better than **part (a)** with many candidates stating that it was the head section, however some candidates wrote heading or header and therefore did not be awarded the mark.

**Question 11**

This question was set as it would relate both to the taught course and to the candidate's personal knowledge therefore it was surprising that candidates found it challenging. The question related to gesture-based user interfaces; there were some good answers, but candidates tended to repeat parts of the question in their answers.

**(a)**     This part of the question asked the candidates to explain what gesture-based user interfaces were. This topic had not been set previously and this was reflected in the marks awarded. Some candidates answered that they were interfaces that used gestures showing a lack of understanding in the answer. Some candidates correctly identified that it used body movement to control a device.

**(b)**     This part of the question asked for the drawbacks of using gesture-based user interfaces, some candidates gave benefits as well as drawbacks. There was a range of answers for this question – with the majority referring to lack of accuracy, limited gestures and learning them, and disables people having issues. In most cases, candidates were able to be awarded one or two marks. A lot of answers though were quite general or lacked detail.

**Question 12**

As with some previous questions this question was quite challenging apart from 12b**(ii)** which produced some good answers. The question related to backing stores.

**(a)**      This part of the question was challenging which was surprising as it compared blu-ray discs with internal hard disks. Blu-ray discs are on the syllabus and therefore should be taught even though they may no longer be popular. Many candidates be awarded marks for stating that blu-ray discs were more portable, but some thought they had more storage than a hard disk.

**(b) (i)**   This was a challenging question for many of the candidates who seemed not to understand the word characteristic. There were some good answers like backing storage is non-volatile and it is permanent. Some candidates thought that backing storage was storage used in backing up data.

   **(ii)**   This was better answered than the other parts of the question with most candidates being awarded at least one mark. There are still references to USB, which is a port and not storage. The question asked for other devices, but some candidates wrote internal hard disk or blu-ray disc and were awarded no credit. Some candidates gave floppy disk as an answer, and this was given credit even though floppy disks were phased out some years ago. There were some references to brand names especially when writing about the cloud – these be awarded no credit. As there were many possible answers some candidates wrote extra answers than the two permitted, the first two are marked in this instance irrespective of whether they are correct or not.

**Question 13**

Overall this question had mixed responses with **parts (b)** and **(c)** producing better answers than **part (a)**.

**(a)**      Modelling had been set previously in the examination series but not related to weather. This had an impact on the candidates ability to answer the question. There were some good responses but many lacked detail. Many candidates did not understand the question thinking that the model was created using sensors and was operational 24/7.

**(b)**      This was well answered by many of the candidates who were able to give two good answers.

**(c)**      This part of the question was well answered with most candidates be awardeding at least one mark for either printer or monitor. Some candidates answered with speaker but this was not appropriate for displaying the weather data.

**Question 14**

This was a very challenging question for many of the candidates. The question related to ePublications and copyright.

**(a)**      ePublications has been rarely set in previous examinations as it is a new topic and this had an impact on the answers given. Some candidates thought that it was related to social media and others thought it was exclusively linked to the internet. Some candidates mixed up characteristics with the way the ePublication looked and its layout. Many candidates were able to be awarded at least a mark for mentioning that the ePublication could use videos and hyperlinks.

**(b)**      Copyright is a difficult topic for many candidates. This part of the question opened up the copyright and gave the opportunity for candidates to achieve better marks. Many candidates were able to be awarded a mark for stating that serial numbers could be used or a licence agreement could be set up.

# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/13**
**Theory 13**

## Key messages

This series the paper was more challenging for the candidates than in preceding sessions. This was evident in the higher number of nil responses, where candidates did not attempt to answer the questions. The reason for this is unclear, as the influence of the pandemic would have diminished. This made the paper difficult to analyse.

The marks for the paper ranged from 0 to 65, which is a good range. However, there was a skew towards the lower end, with fewer candidates scoring between 30 and 65 than in the lower end of the range. The paper covered a wide range of topics, including both previously covered topics and new topics. The balance of technical and general questions was good, so it was surprising that there were no responses from the whole range of areas, not just the harder questions. This year's paper had fewer marks available than previous papers, with 80 marks instead of 100.

It is important for candidates to read the question carefully before answering it, as marks are awarded for answering the question that has been set. In this session, candidates who performed well used specific and detailed language when replying to 'describe' and 'discuss' type questions. The number of answers that split the response into advantages and disadvantages (discuss/describe/compare) has decreased, as this type of layout may not give candidates enough scope to be awarded high marks.

As with previous series, there has been a trend of candidates using brand names for hardware and software, instead of generic names. This is not in accordance with the instructions on the front page of the examination paper, which state that "No marks will be awarded for using brand names of software packages or hardware systems." To avoid this issue in future exams, please use generic names for all hardware and software. This will help to ensure that all candidates are evaluated fairly, regardless of their familiarity with specific brands.

If a candidate needs to expand their answers on to other parts of the examination paper or onto extra sheets, they should clearly indicate where the extra part is written and write the question number on the extra work. This is because 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

This paper gave candidates the opportunity to demonstrate their knowledge and understanding of a wide variety of topics.

For questions that indicate a specific number of answers, candidates should only write one answer in each allocated space. Any extra answers placed below the numbered responses will not be marked.

To receive full credit, candidates should provide clear and concise answers that explain their reasoning. A good rule of thumb is to start each answer with "because" and then state the reason. All answers should be relevant to the question being asked.

**Cambridge Assessment**
**International Education**

**Comments on specific questions**

**Question 1**

This question was quite well answered by most candidates. The original answer was format check although the Examiners allowed length check as only one number was given.

**Question 2**

Overall this was a technical question and therefore challenging for the candidates.

**(a)**  This part of the question was more challenging than the other parts of the question. The answer the Examiners were looking for was Network interface Card.

**(b)**  The correct answer to this part of the question was backing storage although in this series the Examiners allowed an example of backing storage as an alternative answer. As a result of this this part of the question answered well.

**(c)**  Even though the correct answer was touch screen the Examiners in this series allowed a number of other devices that could be connected to a screen, this improved the answering of the question.

**Question 3**

Overall this question was challenging with most of the marks being awarded for **parts b** and **c**.

**(a)**  This was more challenging as it was a 'discuss' type question and therefore required candidates to expand on their comments and give reasons. As a result of this many of the answers given lacked the development required to be awarded high marks. The question related to typing ion the data for the newsletter, but some candidates did not read this and answered with other forms of inputted data like images. It is important with scenarios to read the stem before answering the question.

 As costs are relative in these devices the Examiners no longer give credit for answers where cost is involved. As battery life improves Examiners no longer give credit for answers relating to battery life.

**(b) (i)**  This part of the question was well answered by most of the candidates.

 **(ii)**  This part of the question was well answered by many of the candidates.

 **(iii)**  This part of the question was very challenging with many candidates writing down devices that could not be connected to a smartphone to store data. 0

**(c)**  This 'describe' type question was quite challenging question as many candidates omitted to add expansions or reasons even though they gave simple answers. Some candidates wrote that pdf files could not be edited when it was only harder to edit these types of files; in the same way all devices and software can read pdf files when only some can do this.

**(d)**  As in previous series this was a very challenging topic. In recent series the Examiners have simplified the answers that can be given to these types of question, and this has been reported back on previously. Many of the answers given by the candidates are vague. In the stem of the question it stated that the newsletter was emailed to the parents implying that it was a document. Some candidates wrote about the email being a piece of software and included videos etc. in their answers.

**Question 4**

This was a technical question and therefore was challenging for the candidates to answer. To be awarded full marks in this type of question candidates need to write about both the comparisons and differences between the intranet and the extranet. The question is a comparison question therefore both elements need to be written about. Some candidates misread intranet as internet and answered the question accordingly.

**Question 5**

This question was quite well answered with most candidates being awarded at least two marks overall. The question related to the appropriate cause of each of the health issues, but some candidates gave preventions rather than causes.

**(a)**     This part was not as well answered as **part b** but is produced some good answers and most candidates were able to be awarded at least a mark.

**(b)**     This was well answered with most candidates able to give one correct answer.

**Question 6**

Overall candidates were able to be awarded some good marks in this question with **part b** producing better answers than **part a**.

**(a)**     This question was very challenging for all candidates even though the Examiners gave an example for the type of answer they were looking for. Many candidates misread the question and answered relating their answers back to the example given others mixed up the form of identification with the example. The answers the Examiners were looking for included 'something the user owns or knows or has'. As candidates were struggling with the question the Examiners allowed any example from the three section irrespective of whether a correct identification, this resulted in better marks for this part of the question. This leniency was only for this series and may not be repeated in future series.

**(b)**     Many candidates understood the nature of this question with 'more secure' being a popular response along with 'adds another layer of security'.

**Question 7**

This was a very challenging question for all candidates with **part b** answering better than **part a**. The topic, Point of Sale, has been rarely set in the past and this lack of use of the topic affected candidates' ability to answer the question fully. Many appeared to answer the question from their own experiences.

**(a)**     This part of the question was a 'discuss' type question which is aimed at the higher ability candidate. Candidates struggled to expand on their answers and did not give answers that were in enough depth to be awarded higher marks. As a result of using their own experiences many candidates wrote about the payment of products rather than the POS elements that were asked for.

**(b)**     As with **part (a)** this part was very challenging for most candidates. However most candidates were able to be awarded at least a mark.

**Question 8**

Most candidates were able to be awarded at least two marks on this question, 8b was better answered than the rest of the question. **Parts (a)** and **(c)** were not as well answered.

**(a)**     This question should have been straight forward, but many candidates misread the question, and this affected the marks that could be awarded. As a result of this the Examiners allowed more examples to be awarded marks rather than a theoretical explanation, this allowed more marks to be awarded for the question. Full marks could not be awarded from just giving examples of test data. This leniency was only allowed in this series and may not be allowed in future series. As a result of this many candidates being awarded at least three marks.

**(b)**     This past of the question was well answered by many of the candidates.

**(c)**     This as a very challenging question with few candidates being awarded a mark here. Many candidates confused real data with real-time data in their responses.

**Question 9**

This question was well answered with most candidates being awarded at least three marks overall. The question related to audio conferencing, a topic that had not been set much is previous series.

**(a)** Most candidates were able to be awarded at least a mark here for an explanation of what audio conferencing was. Many candidates were awarded this mark for stating that it used the voice but did not expand upon this statement, probably since the topic had rarely been set.

**(b)** This part was quite well answered with most candidates being awarded at least a mark for giving advantages of using audio conferencing. This question asked for advantages and therefore required a comparison to be made with video conferencing.

**(c)** This part of the question was well answered with most candidates able to be awarded at least two marks mostly for the hardware. Some candidates gave proprietary answers rather than generic answers for the audio-conferencing app even though it is clearly written on the question paper not to do this.

**Question 10**

This was a very challenging question for most candidates. Marks were available for writing out bcc and cc in full.

**(a)** This was a technical question and therefore was challenging for many of the candidates. Many candidates missed writing down the full name of bcc and cc and therefore missed two easy marks. Candidates either understood about the use of carbon copy or they did not.

**(b)** This question related to a topic that had not been examined for some time and this influenced the marks awarded to candidates. As a result of this many candidates found this question challenging.

**Question 11**

Surprisingly this question was very challenging for many candidates. Candidates would have used gutter margins in the practical papers and the topic has been set many times in the theory paper, but few candidates could fully explain what they were.

Candidates had difficulty in clearly expressing the whereabouts of a gutter margin on pages of text, but the responses gave evidence that 'the gutter margin helps to ensure the text is not obscured by the binding' was understood in some cases.

**Question 12**

This was a technical question and therefore was challenging to many of the candidates. The best answer was that an inline style attribute had a higher hierarchy than an external stylesheet.

# INFORMATION AND COMMUNICATION TECHNOLOGY

## Key messages

We recommend that candidates read the question carefully before answering it, as marks are awarded for answering the question. We advise the candidates to use the font or the style set by the question, if they have to complete a presentation task using an editor. Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types and select a font style as specified. Candidates must enter accurate text in bold or italics when requested. The question may ask to modify or to retain existing styles applied to recall text. When candidates finish their presentation task on a test, they should use proofing techniques to identify errors and ensure consistency of presentation.

If a task asks the candidates to import a spreadsheet into a database and produce a report, 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.

For presentations, candidates must be able to set a link on an action button that contains text. They should be aware that the question may give different instructions for creating the presentation's header, body, or footer areas.

Candidates must ensure 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 print out the Evidence Document as this contains supporting evidence that could substantially improve their grade.

## General comments

This paper was in line with the difficulty of previous years. There was no evidence of any difficulties with the new syllabus content and reduced examination time, suggesting that candidates were generally well-prepared for the assessment. The paper gave a good spread of marks, and the majority of candidates completed or attempted all elements of the paper. Most candidates showed a good level of skill.

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

When creating or editing paragraph styles candidates must base the style on either the 'normal' (Microsoft Office) or the 'default' (Open Office) paragraph style.

The 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 in this paper included incorrect capitalisation, incorrect or missing characters, omission of spaces, truncated headings, and superfluous punctuation.

Candidates are instructed to produce screenshots as evidence of 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 visible in the file list within the folder; the 'Save As' dialogue box is insufficient as the save process is incomplete. The screenshot evidence is often small or faint to be read by the examiner. Candidates must ensure that all screenshots can be easily read with the

naked eye. Candidates should take precautions when cropping and resizing their screenshots to ensure that all important elements are still shown, such as primary keys in the table structure.

The question paper prompts candidates to include their name, centre number, and candidate number on all tasks before printing. Without clear printed evidence of this, 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.

When the centres submit their candidates' work, we recommend using hole-punching and securing it with treasury tags or string. The punch holes should not obscure the text. Centres should return the Supervisor's Report Folder together 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***

Most candidates created an evidence document and used it to store their screenshots. Some of the candidates' screenshots were small or faint, making it difficult for the examiner to read them. Sometimes, the candidate cropped out essential information from the screenshot. Few candidates did not print their identification details on the document, so marks could not be awarded for these pages.

**Task 2 – *Document***

**Question 1**

Most candidates opened the correct file and saved it correctly with the required file name. Some candidates incorrectly saved it in the original RTF format rather than the format of the word processing software used, and a few did not enter the filename in capitals as shown on the question paper.

Some of the screenshot evidence was inconclusive because it showed the save-in process rather than capturing the outcome of the file saved. After saving the file, a screenshot of the folder contents provides the evidence required to get the mark.

Most candidates retained the page setup settings as instructed. A few candidates made changes to the existing paragraph styles which had already been created and applied, even though the question paper instructed that no changes should be made. There was often extra space inserted after the body style in one or more paragraphs.

**Question 2**

Most candidates inserted and aligned the header text as instructed. A few candidates omitted their centre or candidate number from the header details. Some candidates incorrectly split their identification details in the header area. For example, the candidate's name was right-aligned, the centre number was centred, and the candidate number was left-aligned.

Some candidates used an automated field for the page numbers in the footer, 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 title style were well done by most of the 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. Candidates should be careful that the new style is based on the default or 'normal' paragraph style, as this avoids inheriting additional formatting. A few candidates entered 'serif' into the font dialogue box as the font name. A font style with attributes of the serif typeface category must be selected and applied. Screenshot evidence of the CF-title style provided details of the settings created for this style.

**Question 4**

Most candidates applied their created title style to the title text in the recall document. The formatting of the title text needed to match the settings seen in the Evidence Document screenshot. A few candidates applied this formatting without providing screenshot evidence of creating the title style and, therefore, did not gain any of 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 final 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 was much larger than 1.5 centimetres. 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 included always.

**Question 6**

Most candidates imported the correct image and positioned it in the correct paragraph, so they received the mark.

**Question 7**

Reflection of the image horizontally so the bike pointed to the left was done well by those candidates who attempted it.

**Question 8**

Most candidates successfully resized the image, applied text wrap, and aligned it correctly. Occasionally, the image was too high to align with the top of the paragraph or extended into the left margin.

**Question 9**

Most candidates applied the bullets to the specified text as required by the question. Some candidates did not include all the list items. Any consistent bullet style was acceptable. The presentation of the bullets was often not in single line spacing as specified. Occasionally, the candidate did not leave a 6-point space after the last item in the list. The bullet indent of 1.5 centimetres from the left margin was often not accurate, or the bullets were aligned at the left margin.

**Question 10**

Most candidates deleted the column from the table as instructed with only a few not attempting this.

**Question 11**

Formatting the first column of the table proved to be challenging. Most candidates managed to rotate the text in the right direction, but some did not merge all the cells. Centring the text vertically and horizontally within the cell was not always done with the precision required with some candidates inserting extra space to try and centre the text rather than using the functions of the software. Most managed to apply a black fill to the cell with white text.

**Question 12**

Most candidates applied the table style to columns 2,3 and 4. Some candidates applied the table style to column 1 as well. Even if most candidates displayed the table text on one line, there were cases when they incorrectly removed spaces from the headings to fit the table within the column width. Most candidates applied the correct table gridlines. Several candidates left no space after the table, or the space was greater than 6 points.

**Question 13**

Applying superscript to the text was challenging for some candidates. A small number did not attempt this, and those that did, often did not apply the superscript to the asterisk.

**Question 14**

In most cases, there was evidence of good proofreading and document presentation skills. The table or the list was rarely split over two columns or pages.

The spacing between items was not always consistent. There were instances when the body style spacing was changed, leaving gaps after paragraphs.

The columns and pages were not always aligned at the top of the page. Occasionally, there was a widow or orphan where a subheading or single line of text had been left at the bottom of a column.

The spacing below the columns was often greater than the 6-point set in the body style.

**Task 3 – *Database***

**Question 15**

Examining the csv file and identifying the most appropriate field containing unique data for the primary field produced a mixed response. Many candidates correctly selected the *Race_No* field as the primary field but a number of candidates set this on *Start_Code* (which was the first field and contained duplicate data). Few candidates did not set a primary field at all or included an ID field. Importing of the csv file using the correct field names and data types were mostly done correctly.

**Question 16**

There were very few issues with importing the second csv file with most candidates using the correct field names and data types. As the primary key was given in the question paper there was little issue setting this correctly.

**Question 17**

There were very few issues with importing the third csv file. Importing of the csv file, using the correct field names and data types, and setting the named primary key were well done.

**Question 18**

Where the primary keys were set correctly in the tables, most candidates correctly created one-to-many relationships between the tables. The screenshot evidence supplied did not always provide sufficient evidence with a few candidates capturing the process of creating the relationships rather than the outcome; this was insufficient to confirm a one-to-many relationship had been created. Screenshots 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 19**

Most candidates entered the new record in the correct table. The new record occasionally contained data entry errors with the spelling of *Wardle* often presented as *Wardie*. Candidates were penalised if they overwrote the first record in the database (*Justin Fernsby*) instead of entering this data as a new record at the end of the table.

**Question 20**

The first report used fields from two 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. Occasionally this title contained data entry or capitalisation errors, or displayed additional text such as '*Query 1*' in the title area. The '*g*' and '*y*' descenders on the title were not always fully visible as the text box had not been adjusted to accommodate the larger font size. The two search criterion were completed well by most candidates. The most common errors with the search were those who searched for the records after 1975 instead of 1975 and later, and a few confused the greater than (>) and less than (<) operators. Most included the correct fields in the report although these were often in the wrong order as, without manual intervention, the software placed the sort field at the start of the report. This can be avoided by setting the sort order in the report structure rather than during the creation of the report if a report wizard is used. The sort order was usually

correct but data in the *Group_Code* field was often grouped despite the instruction on the question paper not to group the data. Occasionally data in one or more fields was truncated and required some manipulation to ensure all data was fully visible. The calculation to count the number of database records was usually well done and this could be positioned anywhere at the end of the report. The label was usually entered to the left of this value but often contained capitalisation errors and/or a superfluous colon. Most presented the report in portrait orientation but this did not always fit on a single page. Most candidates entered their identification details on the report.

**Question 21**

The second report used fields from two tables. Few candidates achieved full marks for this report. The report title was usually entered in a larger font size at the top of the report. The title was usually accurate although a few candidates truncated the '*s*' on *Results*. There were no descenders on the title so there were few issues with vertical truncation. The search criteria were more challenging than report 1. Generally, the wildcard search on '*power*' was well done but excluding *DNF* and *DNS* from the *Status* field was not always successful. There were many incorrect variations with the most common being the use of the 'OR' operator instead of 'AND'. Some candidate inspected the data and searched for '*FIN*' instead which did produce the correct result in the report, but the screenshot evidence was not awarded as this question was testing the higher skill of excluding *DNF* and *DNS*. The new field heading was usually entered accurately with only a few incurring a fault for omitting the underscores, data entry or capitalisation errors. Most used the correct calculation although this was often not formatted to display time as hh:mm:ss with many candidates using an AM/PM time format. Most included the correct fields in the report although these were often in the wrong order due to the sort being set during the creation of the report instead of in the report structure. The report extended to more than one page with data often truncated in the *First_Name*, *Last_Name* or *Club_Name* on the second or subsequent pages. The sort was not always set for both fields, probably due to the order of the fields with the second sort field appearing first. This again can be avoided by setting the sort order in the report structure after the report has been created instead of in the query or during the setup of the report. Most presented the report in landscape orientation with the correct fields displayed. Candidates were not penalised if the calculated field was not attempted or displayed. 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.

**Task 4 – *Presentation***

**Question 22**

Most candidates successfully imported the 6 slides and presented each as a title and bulleted list. Marks were not awarded where incorrect software had been used such as the RTF file opened, manipulated, and printed in word processing software.

**Question 23**

Most candidates correctly entered their identification details in the bottom left and slide numbers in the top right of the slide, so they displayed consistently on all slides in the presentation. Occasionally these were in the wrong position or inconsistent on the first 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 master slide requirements. Drawing a 3 to 4 point line above the identification details was not always completed well. Some candidates drew the default line and did not increase the line weight. Common errors including drawing the line at the top of the slide instead of the bottom, the line not extending across the full width of the slide, or no attempt made at drawing the line.

**Question 24**

The majority of candidates changed the layout of slide 1 to a title slide layout, but often this was not centred vertically on the slide, or the bullet had not been removed from the subtitle.

**Question 25**

Most candidates created a pie chart, but the data selection was often incorrect with the *Total* data also being included.

**Question 26**

The chart title was usually entered in the correct position but occasionally contained data entry or capitalisation errors. There were often errors in the spelling of '*percentage'* and '*wins'* keyed as '*win'*.

**Question 27**

Controlling the display of the sector labels was not always well done with many including all the data instead of only the *group names* and *percentages*. The chart labels were not always displayed outside each sector with many candidates not changing the software default. Displaying the percentages to 1 decimal place was challenging for a number of candidates.

**Question 28**

Not all candidates attempted this but those that did were usually successful in emphasising the largest group by pulling that sector away from the chart. Less exploded charts were seen this session. This mark was awarded if the wrong data had been displayed in the chart but the largest sector was pulled away.

**Question 29**

This was completed well with most candidates placing the chart on the correct slide to the right of the bullets. A few candidates placed the chart to the left of the bullets. A small number did not adjust the position of the bulleted text to make room for the chart on the right and instead placed it above or below the text. Occasionally the chart overlapped the bulleted text or the text wrapped around the chart.

**Question 30**

The production of presenter notes was done much better than previous sessions with many candidates producing and printing the presenter/speaker notes correctly. There were some text data entry or capitalisation errors, most commonly with spacing around the dash. A few still incorrectly added the presenter/speaker text to the slide as a comment, whilst others typed the presenter/speaker notes directly onto the slide as an additional bullet or in a text box and then printed this as a full page slide.

**Question 31**

This new syllabus item was done particularly well considering it was the first time to appear on this question paper. Most linked the correct text and had the correct email address and subject text. There were occasionally capitalisation or data entry errors in the text and a few candidates linked too much text. The screenshot in the Evidence Document mostly provided the correct evidence for full marks.

**Question 32**

Most candidates printed the full presentation with two slides each filling half the page. A small number of candidates presented this in landscape instead of portrait orientation or omitted the chart slide from this printout.

**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**
>
> **Document Production, Databases and Presentations 22**

## Key messages

We recommend that candidates read the question carefully before answering it, as marks are awarded for answering the question. We advise the candidates to use the font or the style set by the question, if they have to complete a presentation task using an editor. Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types and select a font style as specified. Candidates must enter accurate text in bold or italics when requested. The question may ask to modify or to retain existing styles applied to recall text. When candidates finish their presentation task on a test, they should use proofing techniques to identify errors and ensure consistency of presentation.

If a task asks the candidates to import a spreadsheet into a database and produce a report, 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.

For presentations, candidates must be able to set a link on an action button that contains text. They should be aware that the question may give different instructions for creating the presentation's header, body, or footer areas.

Candidates must ensure 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 print out the Evidence Document as this contains supporting evidence that could substantially improve their grade.

## General comments

This paper was in line with the difficulty of previous years. There was no evidence of any difficulties with the new syllabus content and reduced examination time, suggesting that candidates were generally well-prepared for the assessment. The paper gave a good spread of marks, and the majority of candidates completed or attempted all elements of the paper. Most candidates showed a good level of skill.

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

When creating or editing paragraph styles candidates must base the style on either the 'normal' (Microsoft Office) or the 'default' (Open Office) paragraph style.

The 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 in this paper included incorrect capitalisation, incorrect or missing characters, omission of spaces, truncated headings, and superfluous punctuation.

Candidates are instructed to produce screenshots as evidence of 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 visible in the file list within the folder; the 'Save As' dialogue box is insufficient as the save process is incomplete. The screenshot evidence is often small or faint to be read by the examiner. Candidates must ensure that all screenshots can be easily read with the

naked eye. Candidates should take precautions when cropping and resizing their screenshots to ensure that all important elements are still shown, such as primary keys in the table structure.

The question paper prompts candidates to include their name, centre number, and candidate number on all tasks before printing. Without clear printed evidence of this, 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.

When the centres submit their candidates' work, we recommend using hole-punching and securing it with treasury tags or string. The punch holes should not obscure the text. Centres should return the Supervisor's Report Folder together 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**

Most candidates created an evidence document and used it to store their screenshots. Some of the candidates' screenshots were small or faint, making it difficult for the examiner to read them. Sometimes, the candidate cropped out essential information from the screenshot. Few candidates did not print their identification details on the document, so marks could not be awarded for these pages.

**Task 2 – Document**

**Question 1**

Most candidates opened the correct file and saved it correctly with the required file name. Some candidates incorrectly saved it in the original RTF format rather than the format of the word processing software used, and a few did not enter the filename in capitals as shown on the question paper.

Some of the screenshot evidence was inconclusive because it showed the save-in process rather than capturing the outcome of the file saved. After saving the file, a screenshot of the folder contents provides the evidence required to get the mark.

Most candidates retained the page setup settings as instructed. A few candidates made changes to the existing paragraph styles which had already been created and applied, even though the question paper instructed that no changes should be made. There was often extra space inserted after the body style in one or more paragraphs.

**Question 2**

Most candidates inserted and aligned the header text as instructed. 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. The header text was occasionally inserted in the body area instead of the header area, so it did not appear on every page.

A few candidates omitted their centre or candidate number from the header details. Some candidates used an automated field for the page numbers in the footer, 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**

Most candidates applied two equally spaced columns to the correct text, with the correct spacing between the columns. Some candidates included the final 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 the columns at the default, or they did not set it at 2 centimetres. Some candidates inserted the initial column break below rather than above the subheading and occasionally a page break was inserted instead of a section break. Occasionally, the final full stop in the column selection was not included.

**Question 4**

The creation and storage of the subhead style was well done by the vast majority of 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. Candidates should make sure that the new style is based on the 'default' or 'normal' paragraph style as this avoids inheriting additional formatting. A few candidates entered 'serif' into the font dialogue box as the font name. A font style with attributes of the serif typeface category must be selected and applied. Screenshot evidence of the style provided details of the settings created for this style.

**Question 5**

Most candidates applied their created subhead style to the four subheadings in the recall document. The formatting of the subhead text needed to match the settings seen in the Evidence Document screenshot. Few candidates did not apply the style to all four subheadings with a single subhead left aligned or extra space after a subhead. Some candidates incorrectly applied the subhead style to the title text at the top of the document. Without evidence of the subhead style being created and stored, the application mark was not awarded.

**Question 6**

Most candidates managed to move the paragraph to the correct location although this was not always done with the accuracy required. Inconsistent spacing was occasionally left in the area where the text had been moved from, or below the text in the new location. A few candidates copied the text instead of moving it.

**Question 7**

Most candidates imported the correct image and positioned this in the correct paragraph. The image must be placed somewhere in the correct paragraph to achieve this mark.

**Question 8**

Rotating the image 180º was done well by most candidates. A few candidates incorrectly flipped the image as well as rotating it and some made no attempt to change the presentation of the image.

**Question 9**

Most candidates successfully resized and applied text wrap to the image. Some candidates aligned this with the left of the column instead of the right. Occasionally the image was too high to align with the top of the paragraph or extended into the right margin.

**Question 10**

Most candidates formatted the first row of the table, so it was centre aligned over the three columns with a light grey fill. Occasionally the light grey fill was not applied.

**Question 11**

Sorting the data in the table produced a mixed response. The sort order was occasionally done in ascending rather than descending order. The integrity of the data was lost where only the *Download Growth* data had been sorted. A few candidates included the second row in the sort, so the column headings were misplaced. A small number of candidates did not attempt the sort.

**Question 12**

Most candidates inserted the new row in the correct position and entered the data accurately. Occasionally, the row was inserted in the middle of the table, or the data entered contained data entry errors.

**Question 13**

The majority of candidates applied the table style, but a number also applied this to row 1 as well. Few candidates adjusted the column widths, so the data was displayed on one line. Controlling the gridlines and external border were not done particularly well. A number of candidates included internal gridlines and/or

**Cambridge Assessment**
International Education

used the default border width instead of increasing this external border to 3 – 4 point. A number of candidates left no space after the table, or the space was greater than 8 points.

**Question 14**

In most cases there was evidence of good proofreading and document presentation skills. The table was rarely split over columns or pages. The formatting of the three original paragraph styles was not always maintained with some inconsistent spacing between paragraphs. The columns and pages were not always aligned at the top of the page. Occasionally, there was a widow or orphan, most commonly where a subheading or single line of text had been left at the bottom of a column. The spacing below the columns was often larger than the 6 point set in the body style.

**Task 3 – Database**

**Question 15**

The importing of the csv file and setting the primary key were usually well done. A few candidates incorrectly included an ID field in the table. The most common error was not storing and displaying the *LPF_Ratio* field to 3 decimal places. Candidates' screenshot evidence did not always show all ten fields.

**Question 16**

There were very few issues with importing the second csv file with most candidates using the correct field names, data types and setting the correct primary key.

**Question 17**

Most candidates created a relationship between the tables, but the screenshot evidence supplied often captured the process of creating the relationship rather than the outcome. This was insufficient to confirm a one-to-many relationship had been created. 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 18**

Most candidates created a columnar data entry form with the correct fields displayed, and few were successful in applying two appropriate formatting features to improve the design. Some attempted to change some field lengths but the size was not always appropriate for the data. Credit was given for changing the form title, but this often contained the source file name which was not appropriate.

**Question 19**

Screenshot evidence did not always show the new record in the form with a number of candidates capturing the form with the first record in the table which provided no evidence of accurate data entry. Data entry errors included errors in *Veteran*, the *Year_Band* data not presented as shown and the *LPF_Ratio* presented as integer so the accuracy could not be assessed. Candidates were penalised if they overwrote the first record in the database (*1010*) instead of entering this data as a new record in the form.

**Question 20**

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. There were no descenders on the title, so there were few issues with vertical truncation.

The two search criteria were completed well by most candidates. In the wildcard search, some candidates searched for records containing land instead of those ending in land. Most candidates used the correct OR operator.

Most candidates included the correct fields in the report, although these were often in the wrong order as, without manual intervention, the software placed the sort field at the start of their report. This can be avoided by setting the sort order in the report structure rather than during the creation of the report if a report wizard is used. The sort on one field was usually correct, and there was minimal evidence of grouping any of the data.

Occasionally, data in one or more fields was truncated, most commonly in the Last_Name field. Some manipulation was required to ensure all data was fully visible. Most presented the report in portrait orientation, but this did not always fit on a single page. Most candidates entered their identification details on the report.

**Question 21**

The second report used fields from both tables. Few candidates achieved full marks for this report. The report title was usually entered in a larger font size at the top of the report. Occasionally, the title contained capitalisation or data entry errors such as 'GRB' and 'Catagory' and a few candidates truncated the 's' on Results. The 'g' and 'y' descenders on the title were not always fully visible as the text box had not been adjusted to accommodate the larger font size.

The search criteria were usually completed well, with the most common error being in searching for 1960 or earlier. Several candidates confused the greater than (>) and less than (<) operators, and not including those records equal to (=) 1960.

The new field heading was usually entered accurately with only a few incurring a fault for omitting the underscore, data entry, or capitalisation errors. Most used the correct calculation, although this was often not formatted to display time as hh:mm:ss, with candidates either displaying a numeric value or using an AM/PM time format.

Most candidates included the correct fields in the report, although these were often in the wrong order due to the sort being set during the creation of the report instead of in the report structure. Occasionally, the Country_Code had incorrectly been included in the report. Candidates were not penalised if the calculated field was not attempted or displayed.

The sort was not always set for both fields, probably due to the order of the fields, with the second sort field appearing first. This can be avoided by setting the sort order in the report structure after the report has been created instead of in the query, or during the setup of the report.
Report data was often truncated in the Club_Name and Country fields. The calculation to find the longest race time was not always successful, with some candidates using SUM or COUNT instead of MAX.

A small number did not provide screenshot evidence of the database formula used. Candidates were not penalised if this value was displayed as a number instead of a time format. Some candidates put this calculation in the page footer instead of the report footer, so the value or error message appeared incorrectly on every page.

Few candidates accurately right aligned this with the race times in the Race_Time column. The label was usually entered to the left of this value but often contained capitalisation errors and/or a superfluous colon. Most presented the report in landscape orientation. 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.

**Task 4 – Presentation**

**Question 22**

Most candidates successfully imported the 6 slides and presented each as a title and bulleted list. Occasionally bullets and text on the chart slide were right aligned, resulting in inconsistent presentation as on all other slides the text and bullets were left aligned. Marks were not awarded where incorrect software had been used, such as the RTF file opened, manipulated, and printed in word processing software.

**Question 23**

Most candidates correctly entered slide numbers in the top left and their identification details in the bottom left of the slide, so they displayed consistently on all slides in the presentation. Occasionally these were in the wrong position or inconsistent on the first 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 master slide requirements.

**Question 24**

Most candidates created a vertical bar chart using the correct data. A few presented all the data instead of demonstrating their ability to select non-contiguous data. Those that selected the correct data had no problems displaying app titles on the category axis. Occasionally, a horizontal chart was presented.

**Question 25**

The chart title was usually entered in the correct position but occasionally contained data entry or capitalisation errors. There were often extra or omitted words in the title and the value axis was occasionally presented as '*Millions'*.

**Question 26**

Displaying the data values as data labels along the top of each bar was completed well by those candidates that attempted this. Occasionally these were incorrectly positioned on the bars making the values difficult to read.

**Question 27**

More candidates were able to demonstrate their ability to control the value axis than in previous sessions. Most were able to set the minim value of 0, a maximum of 15 and increments of 3. Some did not attempt to change the value axis scale at all and those that set the correct minimum and maximum values did not always change the increments to 3.

**Question 28**

This was completed well with most candidates placing the chart on the correct slide to the left of the bullets. A few candidates placed the chart to the right of the bullets. A small number did not adjust the position of the bulleted text to make room for the chart on the left and instead placed it above or below the text.

**Question 29**

This new syllabus item was done quite well considering it was the first time to appear on this question paper. Most managed to create a shape but this was not always an action button as a number of candidates linked the text instead of the shape/button. The shape was often not square. The text was usually entered on the shape/button but occasionally overlapped the edges or contained capitalisation errors. Candidates did not always provide the screenshot evidence required, with some candidates evidencing the link on the text and not on the action button.

**Question 30**

Most candidates set the slide show to loop continuously although the screenshot evidence did not always show this was applied to all 6 slides.

**Question 31**

Most candidates printed the full presentation with three slides to the page. A small number of candidates presented this in landscape instead of portrait orientation or omitted the chart slide from this printout. Most were able to print the chart slide as a single full page slide although this was not always in landscape orientation.

**Question 32**

**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 0417/31**
**Spreadsheets and Website Authoring**
**31**

## Key messages

We recommend that candidates read the question carefully before answering it to be able to get most of the marks. Candidates need to understand the importance of following the instructions on the question paper to get these marks.

Candidates need to follow the instructions on the question paper concerning the HTML tags that can be used for a task, and not rely upon WYSIWYG software to provide a correct solution. Candidates should have a sound understanding of HTML, not just be able to create a page using WYSIWYG software, or where it is used be able to edit the markup appropriately. Candidates need to ensure that all HTML and screenshots submitted can be easily read by the examiner.

When working with a spreadsheet, the candidates should identify which spreadsheet function is the most appropriate for a task. 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.

For the evidence document, the 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.

## General comments

There were significant differences in the range of results from centre to centre, and from candidate to candidate within centres. The paper gave a good spread of marks, and candidate errors were spread evenly over the sections of the paper.

Candidates MUST ensure that the text within the markup, stylesheet, and spreadsheet printouts is fully visible and large enough to enable the examiners to read the work.

## Comments on specific questions

### *Task 1 – Evidence Document*

Almost all candidates created an Evidence Document.

### *Task 2 – Spreadsheet*

### Question 1

The source file was used and saved with the correct file name by most candidates, although fewer candidates saved their work as a spreadsheet with several files still saved in .csv or .txt format. Almost all candidates placed their name, centre number, and candidate number on the right in the footer, fewer placed an automated file name **without** the file path on the left.

### Question 2

Many candidates produced a spreadsheet with identical formatting to the image shown in the question paper. The more frequently found errors and omissions occurred when merging, aligning, or formatting the cells, or when applying cell borders.

Correct work for full marks should include:

*   Cells within the range A6 to C11 merged across the 3 columns as shown in the diagram.
*   Cells within the range A6 to C11 right aligned.
*   The merged cells in rows 1 and 13 formatted with a grey background.
*   The merged cells in rows 1 and 13 set in an italic font.
*   Text in rows 11 and 14 was wrapped as shown.
*   Text in row 14 aligned centrally both horizontally and vertically.
*   Cell borders applied as shown in the question paper.

**Question 3**

This was completed well by almost all candidates, but row and column headings were often omitted, and values were sometimes not fully visible. A small number of candidates had the page orientation set to portrait rather than landscape.

**Question 4**

This step was performed well by most candidates using a number of different methods. Many used six individual AVERAGE functions with different ranges for each month and each town (as shown in the mark scheme). Some candidates set the ranges to rows 15 to 73 and used an AVERAGEIF function with wildcard searches for January or February. Most candidates successfully applied the ROUND function (with, 1) to all six of their functions.

**Question 5**

This step was performed well by many candidates using COUNTIF functions, although there were a number of candidates who attempted this with COUNT functions (sometimes manually identifying the cells that matched the required condition). A small number of candidates also attempted to use either the SUM or SUMIF functions.

**Question 6**

This step was successfully completed by fewer candidates than **Question 5**, using the COUNTIF function, although some candidates attempted this with a COUNT function and individually referenced cells which for this task was not an acceptable solution. Most candidates used the correct selection criterion of '>7.5'.

**Question 7**

There were mixed responses to this question, with most candidates selecting the AVERAGE function and the correct range. The most common error was selecting the range D15:D73 rather than D15:D45. Fewer candidates successfully applied a ROUNDUP function to this. The use of the ROUND function here is a common incorrect response.

**Question 8**

Many candidates used the COUNTIF function, although some candidates attempted this with a COUNT function. Most candidates used the correct selection criterion of '<5'. Many candidates used the incorrect range D15:D73 instead of D15:D45. Some excellent solutions were seen using the COUNTIFS function testing for both the wind speed and the month with the full ranges between rows 15 and 73.

**Question 9**

This was completed well by many candidates, but row and column headings were often omitted, and formulae were sometimes not fully visible in candidates work.

**Question 10**

This was completed correctly by almost all candidates, but row and column headings were sometimes present in candidates work. Candidates' values were occasionally not fully visible in their screenshots. A small number of candidates had the page orientation set to landscape rather than portrait. Some candidates printed the full spreadsheet and not the specified cell range.

**Question 11**

Most candidates created a chart, but not all recognised that the data to be displayed required a comparative line/bar or line graph to display this data. Most candidates who completed this had calculated the correct values for the total rainfall.

Many candidates set the months as the category axis, but not all applied appropriate titles to this axis. Many candidates plotted both data sets correctly, but few used two value axes as specified in the question paper. Another challenge for some of the candidates was to label these axes appropriately.

Values for hours of sunshine were often plotted using inappropriate scales, making the different values for the two months difficult to see clearly. The chart title was sometimes omitted. Where candidates had included the chart title, it did not always convey to a user what the chart represented, including the name of the town. Fully labelling the chart should have included an appropriate legend so that a user could determine which data was sunshine and which was rainfall. This was not always evident.

*Task 3 – Web page*

**Question 12**

Many candidates completed this step as instructed, although some did not apply the styles to all 4 selectors. A number of candidates omitted the speech marks around the 'Helvetica Neue'. A significant number of candidates erroneously included HTML code in this despite the instruction that this was to be added to an external stylesheet.

**Question 13**

Many candidates did not demonstrate a detailed understanding of the use of meta tags. Most set the correct title and default target window as specified. The use of the metatags appeared to be more challenging with a significant number of typographical errors included within the candidates' syntax. The most common was the use of the singular 'keyword' rather than keywords. Some candidates managed to select the appropriate keywords that related to the contents of the web page. Few candidates appeared to understand that the best keywords were single words rather than short phrases and that these keywords relate to the topic at hand. Words like region, engine, and HTML, for example, were all seen, but would not help a search engine locate this webpage. Some candidates did not place their meta tags within the head section of the web page, despite clear instructions to do so.

*Task 4 – Printing the Evidence Document*

This was printed as specified by almost all candidates.

# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/32**

**Spreadsheets and Website Authoring 32**

## Key messages

We recommend that candidates read the question carefully before answering it to be able to get most of the marks. Candidates need to understand the importance of following the instructions on the question paper to get these marks.

Candidates need to follow the instructions on the question paper concerning the HTML tags that can be used for a task, and not rely upon WYSIWYG software to provide a correct solution. Candidates should have a sound understanding of HTML, not just be able to create a page using WYSIWYG software, or where it is used be able to edit the markup appropriately. Candidates need to ensure that all HTML and screenshots submitted can be easily read by the examiner.

When working with a spreadsheet, the candidates should identify which spreadsheet function is the most appropriate for a task. 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.

For the evidence document, the 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.

## General comments

There were significant differences in the range of results from centre to centre, and from candidate to candidate within centres. The paper gave a good spread of marks, and candidate errors were spread evenly over the sections of the paper.

Candidates MUST ensure that the text within the markup, stylesheet, and spreadsheet printouts is fully visible and large enough to enable the examiners to read the work.

## Comments on specific questions

### Task 1 – Evidence Document

Almost all candidates created an Evidence Document.

### Task 2 – Image Editing and File Management

**Question 1**

Most candidates created the TAS folder as specified. They located and stored the required source files in this folder. However, some candidates cropped the image, so the folder name was not visible in their screenshot. Therefore, the examiners could not verify that the files viewed were in the correct storage location. Some screenshots did not include image dimensions. Another error was saving the modified image as .jpg instead of .png.

Most candidates performed some manipulation of the tiger image. Almost all rotated the image as specified in the question, but fewer candidates reflected it horizontally. Most candidates cropped the left of the tiger image, but not all removed most of the tyre. Some candidates erroneously cropped the image so that part of

the tiger was removed. Most candidates cropped the top of the tiger as specified, but a significant number also removed the lower part of the tiger, including the feet.

Many candidates resized the image to 1000 pixels high, but not all retained the aspect ratio. Of those candidates who cropped the right-hand side of the final image to 500 pixels wide whilst retaining the height of 1000 pixels, many resized it approximately (which did not meet the specification). Some candidates resized the image, resulting in distorting the image. Others may have completed this, but there was no evidence of the file sizes as they did not display all the required elements (particularly the image dimensions) when displaying the TAS folder for the screenshot.

### Task 3 – Web Page

### Question 2

Many candidates produced the page's structure within a single table, as shown in the question's diagram. Most of the candidates set the cell widths to the specified sizes, using percentages and not pixels. If the sizes were omitted completely then marks were subtracted.

Some candidates created tables with more than four rows and more than three columns. Most candidates set the table to be 80 percent of the width of the browser window (although the default 100 percent was seen on some occasions).

Almost all candidates (correctly) did not display the letters in the cells. Not all candidates followed the instruction that table borders must not appear on the final web page, and some table borders and internal cell borders were seen.

### Question 3

Several candidates ignored the instruction to use video and source tags to place the video, allowing their editing software to attempt to insert the video tags such as <object> and, in some cases, even <img>. These gained no credit.

Of those candidates who attempted this using the <video> and </video> tags, most set the video width to 100 percent of the cell width. Some candidates erroneously set their error message as part of an alt attribute (which is not used with the video tag) or did not place the error message between the <video> and </video> tags. The most common error seen from candidates attempting to use the video tags was the failure to also include source tags, instead attempting to place the src and type attributes directly into the video tag.

The banner was almost always placed in the correct cell, as was the tiger image. The monkey image was often placed in row 4 along with an elephant image, but sometimes the wrong elephant image was used. A small number of candidates had placed these images the wrong way around in cells E and F. Although the placement of the images was frequently correct, some candidates did not maintain the aspect ratio of the images. Fewer candidates set appropriate alt text for all the images, especially for the banner image. The alt text should be usable by a reader to indicate what the image is, for both the partially sighted and in the case that the image fails to display in the browser. This needs to be detailed enough for a user to understand what they are looking at.

### Question 4

This step was performed well by most candidates, almost all candidates placed extra h2 tags or break tags to split the paragraphs. There were some typographical errors in the third paragraph. Not all candidates set this into style h2 with a surprising number using a combination of h2 and paragraph tags.

### Question 5

This step was performed well by many candidates, although the most common issue was the inclusion of file paths for one or both of the images which would allow this to work on only a computer with the same file structure as the candidates and therefore would not be suitable for a web page uploaded to the internet. The hyperlink around the elephant image was sometimes placed next to or below the image, and in some cases omitted completely.

**Question 6**

This step proved to be more challenging to a number of candidates who did not appear to understand the syntax of the 'mailto' attribute. A number of different errors were seen with some candidates mixing up the ':' and '=' symbols and others omitting the subject line. A significant number of candidates inserted the email link on the elephant image instead of the monkey image as instructed. The details within the 'mailto:' attribute sometimes contained spelling errors. Some candidates did not place the anchor around the image.

**Question 7**

This step was frequently completed as specified with the stylesheet attached (although not all candidates placed this in the head section) and the web page visible in the browser. Not all candidates displayed the address bar in the browser and some candidates did not use a browser at all, displaying their page in an editor which gained them few marks. Most candidates placed a copy of their HTML code in their Evidence Document, often copying and pasting the text. Those candidates who attempted this with screen shots were less successful, as some screen shots did not display all the html and the text in others was so small or had so little contrast between the background colour and the text, so they were sometimes unreadable. It is important that candidates present examiners with work that will gain them the marks, to this end appropriate font size and readability are critical.

*Task 4 – Spreadsheets*

**Question 8**

Opening, examining, copying, pasting, and deleting rows all appeared to have been completed, with few problems, by the vast majority of candidates. The placement of the text and automated functions in the header appeared to be more challenging. When a space requirement was specified, this was omitted, and several additional punctuation marks such as the use of extra colons were evident. Most candidates saved the spreadsheet (although some saved text files in .csv format) but some did not save the file with the specified file name.

**Question 9**

Many candidates formatted the spreadsheet as shown, but a number of errors and omissions were seen.

These included:
* not merging the correct cells in row 1 and column A
* not emboldening column A, rows 2, 8, 12, 16, 20 and 22
* not centre aligning the contents of cells in row 2 and in columns A and B
* not reducing the height of row 7 and 21.

**Question 10**

The majority of candidates used appropriate SUM functions to complete this step, and they placed the formulas in the appropriate cells. A number of candidates used formulae like '= C9 + C10 + C11' which did not meet the requirements of the question as it asked for functions. The best acceptable solutions were '= SUM(C9:C11)' and even '= SUM(C9, C10, C11)' but solutions such as '= SUM(C9 + C10 + C11)' were not deemed acceptable as the SUM function was not used within the calculation.

**Question 11**

Most candidates completed a correct formula in cell C23, but then some just copied this down into C24 and C25 without considering the cells that these formulae were referencing. This led to a significant number of errors. Many candidates did recognise the need to place each of these formulae individually and completed this as specified. Candidates who omitted the instruction to examine the file in step 8 were less likely to be successful with this question. A few candidates did not replicate these three formulae correctly.

**Question 12**

Despite clear instructions in the introduction that all currency values must be in dollars ($), displayed to 2 decimal places, this was not evident in a significant number of candidates' work as they did not apply

appropriate formatting to cells containing numeric data. A variety of other currencies were seen, the most prevalent being pound sterling.

**Question 13**

This question appeared to be challenging for some candidates. Many would have appeared to set the conditional formatting (as there was evidence of coloured text and backgrounds in the printouts), but not all these candidates displayed screenshots in their Evidence Document showing their methods. Where the evidence was presented, some candidates mixed up the symbols for 'greater than' or 'less than' within their formulae or omitted to include those values that were equal to.

**Question 14**

This was completed correctly by almost all candidates, but row and column headings were sometimes not visible, and formulae or data were not fully visible.

**Question 15**

This was completed correctly by almost all candidates, but row and column headings were sometimes visible and occasionally the data was not fully visible. Some candidates did not print the entire spreadsheet showing the values, printing only the cells containing numeric data.

*Task 5 – Printing the Evidence Document*

This was printed as specified by almost all candidates.