# INFORMATION AND COMMUNICATION TECHNOLOGY

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

## Key messages

Statistically this paper was a good paper covering a range of marks in a variety of different topics. It gave candidates the chance to gain good marks. This report covers both 0417/11 and 0983/11; the question paper is the same for these two papers the difference is in the grading of the examination with 0417 grading using A to G whereas 0983 uses 9 to 1.

Some candidates could benefit from improving the clarity of their handwriting, as this helps ensure that their answers are easily understood and accurately marked. Encouraging candidates to attempt every question, even if they are unsure, can help them gain valuable marks and demonstrate their understanding. There was also an increase in the number of product names used in the paper rather than using a generic name. Product names are ignored, for example if a candidate writes Rich Text Formatted files are used in MS Word, then it does not gain a mark but Rich Text Formatted files are used in word processing software is given a mark.

The range of marks for the paper was 0 to 70 marks which reflects that the paper was fair for all candidates. The mean, however, was 21 marks which was higher than some other papers in the series but is still quite low. The paper covered a large range of topics giving a good coverage of the syllabus.

It is important that candidates read the question carefully before answering it as marks are awarded for answering the question that has been set. Candidates are encouraged to focus on understanding concepts rather than relying solely on rote learning, as this will help them adapt to different question types and scenarios. Candidates are encouraged to use specific and detailed language when answering questions, particularly those that require them to describe, evaluate, or discuss. This type of layout does not give enough scope to gain high marks.

Candidates should ensure that their answers are focused and directly address the question, as this will help them gain full marks for their responses. It is important that the expansion to the answer relates to the question set. Candidates are encouraged to review their answers to ensure they are focused and relevant to the question being asked.

This year Examiners have removed BOD and TV from the annotations, meaning an answer is either correct or incorrect.

## General comments

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

When a question indicates a specific number of answers, candidates should only write one answer in each allocated space as the first answer written is the only one that is marked, correct or incorrect, for that space. Any extra answers placed below the numbered responses are ignored.

Candidates can improve their answers by providing clear and detailed explanations, such as explaining why something is quicker, rather than making general statements. A good rule of thumb it to add ‘because’ and then give a valid reason. All answers on the paper should relate back to the question being set.

## Comments on specific questions

### Question 1

This question on analogue and digital data was quite well answered by candidates, many gaining at least a mark.

**(a)** This question on why analogue data is converted to digital data was well answered. Candidates were able to write down that the data needed to be converted so the computer could understand it.

**(b)** This question was more challenging than **part (a)**. The expected answer was that analogue data cannot be understood by a computer, whereas humans can interpret it.

### Question 2

This question was well answered by the candidates.

**(a)** This question on application software was well answered by the candidates.

**(b)** This question asked about the software required for a computer to run a task. Many answered with system software although a minority gave a hardware device. The correct answer was system software, as the operating system is a component of it.

**(c)** Most candidates were able to gain a mark for this answer. Candidates should pay close attention to the wording of the question, as providing the collective name rather than specific examples would have earned them marks.

**(d)** This part of the question was also well answered by many of the candidates. Many candidates gave the correct answer of CPU although the Examiners also allowed microprocessor and processor.

### Question 3

This question was fairly well answered by the candidates. The question asked about storage used by a computer.

**(a)** This was a challenging question for many of the candidates. One of the issues that candidates had was that they mixed up backing store with backups. Other candidates thought that the only backing store on the computer was the cloud and then answered the question relating it to this. Some candidates gave answers which stated that internal memory was inside a computer but also included HDD. The expected answer was that backing storage is permanent memory, while internal memory can be both permanent and temporary.

**(b) (i)** This question was well answered by many of the candidates who were able to give an example of internal memory. Some candidates however that thought that internal meant inside a computer answered with HDD.

**(ii)** On paper this seemed quite a straightforward question but the proximity of this question and the next one on use of the cloud meant that Cloud storage was not an acceptable answer for this question, as it did not fit the required context. However the question was well answered by many of the candidates. A few candidates when answering the cloud used trade names which do not gain credit.

**(c)** This was a challenging question for some of the candidates. The question topic was an evaluation about the use of cloud storage. Evaluate is a harder type of concept for candidates to understand as it involves positives and negatives of using the cloud and should include reasons.

The most common correct answers related to accessing data from any device and/or anywhere. Security was one answer that could be a positive and a negative, but candidates tended to only state that it was either a positive or a negative. Candidates that did well in the question were able to give more detail in their answers.

**Question 4**

This was a challenging question for many of the candidates. The topic of the question was user interfaces and expert systems. Expert systems have been a difficult topic in the past.

**(a)** This part of the question was answered better than **part (b)** as it related to a GUI used in an expert system. It was quite challenging for some candidates. Candidates produced some good valid comparisons with CLI, although the question asked for benefits and drawbacks which meant that comparisons were not required. Those candidates that gained good marks for this answer wrote about the learning of commands and typing commands. Some candidates mixed up GUI with gesture-based interfaces.

**(b)** This part of the question related directly to expert systems and therefore was very challenging for many candidates. The question related to the inputs and outputs of an expert system, although some candidates included processing. Candidates are encouraged to read questions carefully to ensure they address the specific requirements, such as focusing on inputs and outputs rather than devices for this question.

**Question 5**

This question was fairly well answered by many of the candidates. When the question was set there were a larger number of differences between laptop computers and desktop computers but as technologies have merged and developed so these differences have reduced therefore making the question harder. As with other questions of this type candidates knew the general principle of the answer but could not explain it in detail. For example, a laptop computer does not need electricity to operate, this is incorrect as it takes its electricity from its battery. The main difference between the two types of computers was that the laptop is more portable. The standard answer that laptops were easier to steal was seen but again no reason or explanation was given as to why this was the case.

**Question 6**

Surprisingly this was a very challenging question for many of the candidates. The question asked the candidates to state two direct data entry devices. Many candidates understood the concept of the topic but missed out the word reader/scanner for example just writing bar code. Candidates should ensure they understand the distinction between input devices and direct data entry devices, as this would help them provide accurate answers. In this series the Examiners awarded marks for OMR and OCR as the R could be reader rather than recognition; this may not be the case in future sessions.

**Question 7**

This was a technical question and therefore tended to be very challenging for the candidates. The question related to the use of a router.

**(a)** This question gave one example of a function of a router and then asked candidates to write down two others, however many candidates simply reworded the example. This meant that candidates gained fewer marks for this question. As mentioned in my key messages reading the question and the stem is essential. Many candidates gave a good answer by writing down ‘connects devices to WAN’ but struggled to gain the second mark, this could have been ‘stores IP addresses’.

**(b)** This question was also very challenging for many of the candidates. Many candidates were able to state that the IP address was stored in the data packet but then their answers became vague and lacked detail. For this session, 'fastest' or 'shortest' route were accepted as correct answers, though future sessions may require more specific responses. Some candidates knew the key words but had difficulty explaining their function in the process.

**Question 8**

Candidates found this question very challenging, and it related to the security of data.

**(a)** Candidates found this question very challenging. The topic used in the question was new to the paper having never been set before. As with the previous question candidates knew the key words like OTP but had difficulty placing these in context or giving enough detail as to their use. Some candidates understood that OTP had a time lock attached to them but stated this was in many cases a second, Examiners allowed this answer even though it was technically wrong. Some candidates mixed up token with biometric systems, others thought it was a coin.

**(b)** Surprisingly that was another question that candidates found challenging. The expected response was that candidates would scan the email and attachment for viruses before downloading. If any were found, the email would have been destroyed, if viruses were not found then the attachment could have been downloaded and saved. Many candidates wrote that the attachment should be downloaded then checked for viruses or downloaded onto a portable drive.

Candidates should ensure they address all parts of the question, such as considering both the safety of the email and the attachment, to provide a complete response. They concentrated on how to ensure the email was safe and from a trusted source – writing about online safety, and not thinking about how to keep their data safe from possible virus/malware/spyware in the attachment.

**Question 9**

This question was well answered by many of the candidates. The question related to health and safety issues when using a computer. Candidates can improve their answers by clearly distinguishing between health and safety issues, ensuring each point is placed in the correct category.

**(a)** This part was better answered than **part (b)** with many candidates able to gain all three marks.

**(b)** This question was quite well answered by the candidates, although some candidates simply rewrote the answers from **part (a)**.

**Question 10**

This question was quite challenging for many of the candidates. The question was related to communication systems asking about VoIP and the use of the cloud.

**(a)** This question was well answered with many candidates able to gain a mark for this stating that it was communication over the internet or writing VoIP out in full.

**(b)** This question was challenging for many of the candidates who thought that the document was downloaded and sent by email.

**Question 11**

This question about modelling was very challenging for many of the candidates.

**(a)** This question was also very challenging for candidates. This is a variation on a standard question type that was asked multiple times before about computer models, but the 'stock answers' were not often given. As with other answers on the paper candidates understood the main concept of modelling but did not expand on their answers.

**(b)** Due to the wording of the question the Examiners allowed more general answers than using the scenario in the stem. As with **part (a)** many candidates found this question challenging. Many candidates misread the question and thought this was a control question rather than how to operate the computer model and wrote about traffic lights changing.

Those candidates who did not manage to answer 11**(a)**, had difficulty answering 11**(b)**. If a candidate did not know what a computer model was, then they would not be able to explain how a computer model operates.

**Question 12**

Overall candidates answered this question well with them answering **part (a)** about output devices better than **part (b)** which related to 3D printers.

**(a)** This question was answered very well with many candidates able to name three output devices. The only issue were those candidates that wrote input devices or were vague in their answer for example printer. **Part (b)** asked about 3D printers therefore the Examiners could not allow a generic answer like printer.

**(b)** Candidates found this question about 3D printers very challenging even though the topic had been covered previously. Many candidates were able to state that the printer printed layer by layer, but some did not relate the question back to the scenario about tablets stating that the 3D printer would print in plastic or even metal.

Candidates should ensure they understand the functionality of 3D printers, as this will help them provide accurate and relevant answers.

**Question 13**

This question was well answered by the candidates. The question asked the candidates to write down two methods of analysing the current system. The expected answers included methods like questionnaires and interviews for analysing the current system. Candidates either gave two good answers or two incorrect ones.

# INFORMATION AND COMMUNICATION TECHNOLOGY

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

## Key messages

Statistically this paper was a very good paper covering a range of marks in a variety of different topics. It gave candidates the chance to gain good marks. Candidates are encouraged to attempt every question, as even partial answers can demonstrate understanding and earn marks. There was also an increase in the number of product names used in the paper rather than using a generic name. Product names are ignored, for example if a candidate writes Rich Text Formatted files are used in MS Word then it does not gain a mark but Rich Text Formatted files are used in word processing software is given a mark. Candidates should aim to use answer space efficiently by focusing on concise, relevant responses rather than repeating the question.

The range of marks for the paper was 0 to 71 marks which reflects that the paper was fair for all candidates. The mean, however, was 21 marks which was higher than some of the other papers in the series but is still quite low. The paper covered a large range of topics giving a good coverage of the syllabus.

It is important that candidates read the question carefully before answering it as marks are awarded for answering the question that has been set. Many candidates use rote learning but scenarios and topics change every season as do the question type set, therefore candidates may rote learn one type of question only to be faced with another type in the actual paper. Candidates who performed well in this paper used specific and detailed language when replying to 'describe', 'evaluate' and 'discuss' type questions. The number of discussion/describe/compare type answers where candidates split the answer into advantages and disadvantages has reduced in this session, with only a few centres using the technique. This type of layout does not give enough scope to gain high marks.

Some candidates wrote detailed, long answers but did not answer the question fully. It is important that the expansion to the answer relates to the answer that was given. Candidates should check back as they answer the question to ensure they are still on topic and that they have not inadvertently repeated elements of the question in their answer.

This year Examiners have removed BOD and TV from the annotations, eaning an answer is either correct or incorrect.

## General comments

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

When a question indicates a specific number of answers, candidates should only write one answer in each allocated space as first answer written is the only one that is marked, correct or incorrect, for that space. Any extra answers placed below the numbered responses are ignored.

Candidates need to be clear in the answers given rather than using basic statements like it is quicker. A good rule of thumb it to add 'because' and then give a valid reason. All answers on the paper should relate back to the question being set.

There has been an increase this series with candidates needing to expand their answers on to other parts of the examination paper, although the blank pages tended not to be used. Some candidates use this extra area to write one or two words that could have been written below the actual answer given. It is important

that if this occurs the candidate clearly writes where the extra part is written and writes the question number on the extra work. The paper is marked electronically and if the candidate writes on extra sheets or on the blank pages/spaces in the examination paper the extra elements or key points within it may be missed. Some candidates show rough working outs on the paper but in many cases these are not crossed out.

## Comments on specific questions

### Question 1

This question related to software protection. Candidates found this a challenging question. Some candidates gave the answers that the Examiners were looking for like holograms and product keys, other candidates read the word copyright and gave answers like asking permission and two factor authentication. The question became discriminatory question.

### Question 2

This question, as a whole, was a challenging question relating to emails.

**(a)** This part of the question was the most challenging of all the elements of the question. Many candidates repeated the question by answering with an email group was a group of emails. There appeared to be no discrimination from the candidates between an email and an email address, candidates need to be clear which they are referring to in their answers.

**(b)** This again was a challenging question for the candidates, many of which thought that a carbon copy was actually a copy of the email. Many candidates wrote about the 'email being visible to others' or referred to the sender being seen…not to the recipients.

**(c)** This question was quite well answered by many of the candidates. Candidates should ensure they address the specific terminology in the question, such as differentiating between 'emails' and 'email addresses.'. Some candidates took the question out of context and wrote about a book of addresses.

**(d)** Some candidates were able to gain the mark on this and therefore it was answered better than **part (b)** which related to carbon copy, this question related to blind carbon copy. Therefore, I would have felt that candidates should have answered the questions more in line with each other for the two similar questions. As with **part (b)** the answers should have related to the recipients rather than everyone or just the sender. Those in bcc cannot see who else received the email.

### Question 3

This question was quite well answered wih many candidates gaining marks on it. The question related to types of generic file formats.

**(a)** This question was challenging even though the setters thought that pdf was a commonly understood concept. Many candidates gained one mark for stating that pdf meant portable document format, although some of these candidates missed marks by stating it was a file rather than a format. If candidates are going to expand on the acronym, they should ensure that it is correct. Fewer candidates gained the second mark; some wrote that a pdf could not be edited although it can be edited with the correct software but it is difficult.

**(b)** This part of the question was better answered with many candidates writing rtf out in full, namely rich text format although some wrote file rather than format. Many of the answers given referred to specific rather than generic word processing software. Few candidates were able to gain the second mark about basic formatting.

**(c)** This question was also quite well answered although some candidates mixed up css with csv. As with the previous two parts the marks tended to b awarded for expanding css into cascading stylesheet. Some candidates also wrote that the css set the format for the web page; in this series the Examiners were a little lenient in allowing named formatting rather than just stating formatting, but this may not be the case in future series. Other candidates correctly wrote that the css was attached to the web page.

**Question 4**

On the whole this question was well answered with many candidates gaining over half marks. The question related to input and output devices.

**(a)** This question was similar to a question set last summer where the candidates were asked to write down the differences between input and output devices. At the time I reported in the PE's report that for this series we would allow the use of examples, however some candidates attempted to write examples in this part of the answer even though **parts (b) and (c)** asked candidates to give three examples of each type. The question was fairly well answered with the main issue being detail rather than understanding. For example rather than candidates writing an input device allows users to send data to a computer others wrote that it took data to a computer which was far too vague. The question asked for comparisons and differences; some candidates missed the comparisons and therefore could not gain full marks in the question as at least one comparison had to be given to answer the question fully.

For this session the Examiners allowed 'input devices are used to input data into a computer' and output devices are used to 'output data from a computer'. Some candidates wrote these answer but did nit fully expand the answer only giving 'input devices input data' and 'output devices output data' therefore repeating the question.

**(b)** This question was very well answered with many gaining full marks for identifying three input devices. Candidates can improve their answers by carefully distinguishing between input and output devices, ensuring each example aligns with the question requirements.

**(c)** This question was also well answered but not as well answered as **part (b)** as some candidates repeated their answers for example, speakers and headphones or two different types of printer.

**Question 5**

This question was fairly well answered with candidates giving better answers to **part (a)** rather than **part (b)**.

**(a)** Most candidates were able to gain marks for this part of the question and some gained full marks. The question related to primary storage, ROM and RAM and asked candidates to explain the differences between them. Many candidates were able to gain all the marks within the first two answer lines. A minority of candidates mixed up ROM and RAM.

**(b)** This was a challenging question as many candidates mixed up backing store with backups. Some candidates thought that backing storage was only the Cloud. However, some candidates fully understood backing storage and gave good answers. Some candidates gave answers that dealt with the way backing store is used rather than its characteristics which was the topic of the question.

**Question 6**

This was a challenging question although it was an A03 question and therefore is meant to be more difficult. The question was related to the use of dialogue based interfaces when using a sat nav in a vehicle. Some candidates did not relate the question back to the scenario and simple wrote about the user interface being used to drive the vehicle or using it as the car was being driven. Some candidates misread the question and compared the dialogue based interface with other user interfaces like CLI. CLI would not be used in sat nav but as the question was for benefits and drawbacks comparisons were not needed. Some candidates looked at sat nav stating it could only be used if the satellite was present, which was incorrect but also did not answer the question. Some candidates wrote about cost which again did not answer the question.

**Question 7**

Overall this was a challenging question. The question related to expert system which in the past has been a difficult topic.

**(a)** **Part (a)** surprisingly was answered better than **part (b)**. This part looked at the processing and outputs of an expert system. To gain full marks candidates had to give examples of both processing and outputs however some simply named components without linking it to processing

and outputs. Many could give good answers regarding processing but either missed or did not give enough detail on the outputs.

**(b)** This question asked candidates about examples of expert systems. Examiners were more lenient in this this session in allowing two different types of diagnostic or identification systems. This may not be the same in future sessions. Candidates are encouraged to use precise terminology, such as 'medical diagnostics,' to ensure clarity and accuracy in their responses.

**Question 8**

This question was fairly well answered even though it was a A03 discussion question. Many candidates gain the first comparison but tended not to give enough detail to achieve subsequent marks. The question related to the advantages and disadvantages of using phablets rather than smartphones. When the question was written phablet computers were separate devices but in recent years phablets and smartphone technology has merged. In order for candidates to do well in this question there needs to be a comparison or an implied comparison. As with many of comparison questions of this type, the candidates seem to write about cost and battery size but these are subjective and would never gain marks.

**Question 9**

This was a very challenging question that looked at the operation of routers and therefore a technical question.

**(a)** Candidates found this question quite challenging even though the Examiners gave some scaffolding to the candidates. Candidates having been given an example of connecting networks to the internet had to give two other functions of the router, some repeated the original example but reworded it whilst others attempted to answer the question. Some candidates were able to gain one mark for writing routes data packets.

**(b)** This again was a challenging question for many of the candidates. Candidates had to describe how a router connects devices to the internet; there were some good points given but lacked the detail needed to gain many marks. Many assumed that routers provided Wi-Fi/were WAPs and described how wireless connections were made. Some candidates looked at the physical connection rather than the flow of data although they did realise the importance of IP addresses.

**Question 10**

This question was challenging for many of the candidates. The question related to electronic tokens and the use of anti-virus and anti-malware software.

**(a)** This was a challenging part of the question. Electronic tokens had not been asked previously and therefore this will have affected the answers given. Candidates should review key concepts like electronic tokens to ensure their answers align with the technical definitions expected. Answers included tokens as used in fairground gaming machines, exit from car parks and to tokens exchanged for goods in shops/arcades. However, there were some good accurate answers seen too. A few candidates read authentication in the question and then answered about two factor authentication or simply repeated the question in their answer.

**(b) (i)** This question was fairly well answered with many candidates managing to gain one mark of the three available. Anti-virus is a topic that had been set many times and therefore should have been straightforward for candidates. Some good answers were seen, although some candidates wrote ‘anti virus software protects viruses’. The common correct answers related to protection, removal, warning user and detection.

**(ii)** This was a similar question to **part (i)** but this related to anti-malware which is rarely set in the examination series. Therefore candidates also found this question quite challenging. Even though there were some weak answers some candidates did correctly mention heuristic-based detection. As with **part (i)** there was a minority of candidates who wrote about AV and AM software protecting humans or even stopping hackers.

**Question 11**

Again this was a challenging question especially **part (a)**. ePublications as a new topic had been set recently therefore the Examiners felt that answers should have been better answered than it was.

**(a)** This was a challenging question relating to the characteristics of ePublications. The answers the Examiners were looking for were that pages could be automatically changed, or that hyperlinks and interactivity could be used. The Examiners were more lenient in this session in that if a candidate named two types of multimedia on two separate answer lines then a mark could be awarded, this may not be the case in future sessions. The answers to this question seemed to be based on questions that had been asked previously on the topic, these questions were different and therefore the answers were different but candidates still wrote them.

**(b)** This was fairly well answered with many candidates able to gain a mark from the two that were available. The question asked the candidates to give two other examples of ePublications, however a minority wrote newsletters which were a repeat of the stem of the question. Candidates gave some good answers like books and advertisements, as well as a wide range of other correct answers. The Examiners were lenient in allowing books rather than eBooks, but this may not be the case in future sessions.

**Question 12**

Overall this was a very challenging question for all the candidates. The topic of the question was analysis of a system. Analysis had been set many times in the past in the papers but not in this depth.

**(a)** Candidates answered this part of the question better than other parts of the question. The question asked what other tasks were involved in analysis apart from hardware and software requirements. Some candidates repeated the question and answered about hardware and software requirements or similar answers about requirements. Most of the question looked at the current system although some candidates wrote about the new system or gave vague answers which did not name the system and therefore did not gain the mark.

**(b)** This was a new topic and had not been set before. The result of this was that candidates found the question very challenging. Many candidates repeated the question in their answer or related it back to the stem therefore repeating this in the answer.

**(c)** As with **part (b)** many candidates found this question very challenging. The question related to the elements found in data and file structures. Only one candidate gained all three marks for this question. Those candidates that did gain a mark gained it for data type.

# INFORMATION AND COMMUNICATION TECHNOLOGY

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

## Key messages

This paper was a little bit more challenging than in previous sessions and slightly harder than both papers 11 and 12 as there were less full questions on the paper. There were a larger number of nil responses in the answers where candidates did not attempt to answer the question as well as an increase in the number of product names used in the paper. Product names are ignored, for example if a candidate writes Rich Text Formatted files are used in MS Word then it does not gain a mark but Rich Text Formatted files are used in word processing software is given a mark. This year also saw an increase in the number of candidates rewriting the question in the answer lines therefore cutting down the space to answer the question and meaning that some candidates had to cram their answers into a small space.

The range of marks for the paper was 0 to 52 marks which showed a very good range although the mean was 18 marks which was low. The paper covered a large range of topics giving a good coverage of the syllabus.

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

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

This year Examiners have removed BOD and TV from the annotations, eaning an answer is either correct or incorrect.

## General comments

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

When a question indicates a specific number of answers, candidates should only write one answer in each allocated space as first answer written is the only one that is marked, correct or incorrect, for that space. Any extra answers placed below the numbered responses are ignored.

Candidates need to be clear in the answers given rather than using basic statements like it is quicker. A good rule of thumb it to add 'because' and then give a valid reason. All answers on the paper should relate back to the question being set.

**Comments on specific questions**

**Question 1**

Surprisingly this question was very challenging to many of the candidates. This session the Examiners were lenient with the use of memory and storage, although this may not be the case in other sessions.

**(a) (i)** Most candidates were able to gain at least one mark for this question, usually for stating ROM was read only. Although others wrote that it was also non-volatile memory. However, if candidates wrote read only memory then the Examiners allowed this, however this may not be the case in other sessions. Some candidates mixed up ROM and RAM. The Examiners were lenient with the writing of non-volatile, this session, in allowing not volatile.

**(ii)** Many candidates were able to gain at least a mark in this question by stating that RAM was volatile Some candidates wrote RAM out in full but did not gain the mark as it did not answer the question. The answer the Examiners were looking for was that memory could be accessed in any order.

**(b) (i)** This question was very challenging for many candidates. The Examiners were looking for details that the ROM stored the start up instructions although some candidates mixed ROM up with CD-ROM.

**(ii)** This question was also very challenging for candidates with some of the answers best suited to 1**(a)(ii)**. Many candidates wrote about storing programs and data but did not include 'in use at the current time'.

**(iii)** This question was quite well answered with candidates understanding what blu-ray discs were used for. The issue the setters have is that blu-ray has been superseded by streaming and many candidates do not understand the use of the technology. Some candidates understood the use of blu-ray discs but rather than writing that it stored HD movies, they wrote it was used to watch HD movies, which is incorrect as a blu-ray disc player would be used for this purpose. The Examiners were lenient in this session allowing storing movies/films rather than storing HD movies/films. This may not be the case in future sessions.

**(iv)** Magnetic tape although on the syllabus is classed as old technology and therefore candidates found the question quite challenging. Some candidates mixed up magnetic tape with cassette tape therefore writing answers about storing music. Magnetic tapes are used to store backups and archive data and this is what the Examiners were looking for.

**Question 2**

This question was quite challenging for candidates. The question related to generic file formats.

**(a) (i)** Some candidates mixed up csv with css. Those candidates that gave the correct answer tended to write that it meant comma separated values. Other candidates explained the answer by writing excel rather than a spreadsheet and therefore could not gain the mark.

**(ii)** This was a new topic therefore many candidates found the question quite challenging and some did not give an answer at all. Candidates tended to give the answer that it was used for file compression and therefore gained a mark.

**(iii)** Many candidates were able to gain a mark for this question by stating that txt was text, technically it is plain text although the Examiners allowed text on its own.

**(b)** This question was well answered with many candidates gaining all three marks. Some candidates mixed up the letters whilst others wrote examples like docx, xls. Very few if any used the examples given in **part (a)**.

**(c)** This again was a challenging question. Those that answered the question correctly wrote about the fact that generic files could be used in many different types of software.

**Question 3**

Surprisingly this question was quite challenging. Some candidates produced good answers about the similarities but found the differences more challenging. Common correct similarities were they both store data and have a large storage. Many candidates thought that SSD devices were part of primary storage whilst others wrote that they were smaller. As in previous years some candidates wrote about the cost of the devices, these types of answers are no longer allowed as cost is relative. Some candidates repeated the question stating that either one or both were portable.

**Question 4**

This question was also challenging for many of the candidates. The question related to network devices.

**(a) (i)** This was a very challenging question with many candidates writing that a switch turned on a computer/network. Some candidates produced the correct answer in that it linked several devices together to form a LAN.

**(ii)** This again was a very challenging question. Many candidates appeared to understand the operation of a router however their answers lacked details and therefore some marks could not be gained. For example, the candidates wrote correctly that data was sent and received but did not give the source/destination or that data was stored in a packet. Some candidates understood that data was placed in a data packet with an IP address, and it was the IP address that located the destination.

**(b)** Most candidates were able to gain a mark for this answer, by stating that a bridge connected two LANs.

**(c)** Most candidates were able to gain at least one mark for this part of the question. This was a higher ability question and therefore required the candidates to give some depth to their answers. The question related to the use of passwords to ensure privacy and confidentiality of data. Many candidates gained marks for the use of strong passwords.

**Question 5**

This was quite a challenging question for many of the candidates and dealt with the health issues of a prolonged use of a computer. Some candidates did not read the layout of the question and answered the strategy in the cause section.

**(a)** Part of the question was an example that could be used for a strategy, namely taking breaks. Some candidates misread the question and added this into their answer and therefore did not gain the mark. Most candidates were able to gain a mark on the question either for the cause or the strategy. The kind of answers the examines were looking for were: prolonged use of the keyboard or mouse; and then the strategies to use ergonomic devices.

**(b)** This question like 5**(a)** meant that some candidates misread the question and answered with taking breaks. Other candidates gave correct answers like changing the screen brightness but this is subjective as a bright screen in a dark room can affect your eyes, therefore a better answer is changing the screen brightness to match the room brightness and this would gain the mark. There were less references to blue ray glasses this season.

**Question 6**

This question was fairly well answered. The question referred to advantages and disadvantages therefore answer points should imply a comparison rather than just a statement like it is portable. The second part of the question referred to video games and again this point should be reflected in the answer. On the positive side candidates were able to gain marks for this question.

**Question 7**

When this question was written **part (a)** was seen as a straightforward question and **part (b)** the more difficult part, in reality candidates found both parts quite challenging.

**(a)** This question asked for the input, processing and outputs for a school management system to show learner performance. Some candidates wrote as an output, learner performance which was in the question and therefore a repeat. The answers the Examiners were looking for were for example: name of candidate, test results as inputs, sorting them into order, calculating grades as processing and producing a list of candidates and the grades achieved as an output. I think many candidates misread the question. Candidates that did well on this question managed to link the inputs given to processing those elements to produce an output. Candidates were able to give inputs and outputs but had issues with the processing.

**(b)** This topic had not been set before and therefore was more challenging. The question asked what Computer Aided Learning was. Many candidates simply reworded the question in the answer, stating that it was learning using a computer the Examiners were looking for answers that related to using software to teach candidates by tailoring it to their knowledge.

**Question 8**

This question related to databases was fairly well answered by many of the candidates.

**(a) (i)** This part of the question was the most challenging part with some candidates writing data in as the answer, whilst others mixed up validation and verification. The Examiners were expecting length check, presence check and format check and then a description of it. The Examiners allowed a marks for a correct description even though the name of the check was missed.

**(ii)** This part was better answered than **part (i)**. The most common answer was range check and then a description of the range used. As with **(i)** some candidates wrote data or some odd validation check. The Examiners allowed a marks for a correct description even though the name of the check was missed.

**(ii)** This part was well answered with many of the candidates gaining a couple of marks for the four that were available. The Examiners allowed short text as an alternative to Boolean, but this may not be the case in future series, Y/N was not allowed as an answer as it not a generic data type.

**Question 9**

As a whole this question was challenging to many candidates. The question related to websites.

**(a)** This question asked the candidates to circle two web development layers, the Examiners were looking for behaviour and presentation. Many candidates however circled Body and Head or HTML and CSS.

**(b)** This was marginally better answered than **part (a)** and asked why tables were used to structure elements on web pages. Many answers related to structure and therefore could not gain the marks as it repeated the question, many candidates however stated that the table organised the data and therefore gained a mark. The answers to this question lacked detail.

**Question 10**

This question was also challenging with many candidates not understanding what gesture based user interfaces were. Some candidates gave excellent answers and therefore gained good marks. Gesture based user interfaces use the hands to operate the device, therefore as the hands do not touch the device they are hands free, but commands have to be clearly demonstrated. Some answers related back to last summer's examination and although the answers were correct in general, they did not answer this question.

# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/02**
**Document Production, Databases and Presentations**

## Key messages

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

- Candidates must be able to distinguish between the typeface categories of serif and sans-serif font types and select a named font for the type specified.
- Candidates must take care to enter accurately text in bold on the question paper.
- Candidates must be able to remove page breaks and repaginate a document with accuracy whilst retaining existing text, punctuation and spacing.
- Candidates must retain existing styles applied to the source file document text.
- Candidates must base document styles on the 'normal' (Microsoft Office) or 'default' (Open Office) paragraph style.
- Candidates must use proofing techniques to identify errors, make sure all data is fully visible and ensure consistency of presentation in all their work.
- Candidates must be able to distinguish between the database page header/footer area and the report header/footer area and understand which is appropriate to use.
- Candidates must be able to create functioning controls and understand the difference between drop down menus and list boxes.
- Candidates must make sure their action button hyperlink evidence captures both the selected object and the link to the correct file.
- Candidates must make sure they include their identification details in tasks before printing as instructed on the question paper.
- Candidates must make sure their screenshots capture the required evidence and that this is fully visible.
- Candidates must produce legible screenshots which show the outcome of an action rather than the skill process.
- Candidates must printout the Evidence Document as this contains supporting evidence that could substantially improve their grade.

## General comments

The paper gave a good spread of marks and most candidates appeared well prepared for the examination. The majority of candidates completed or attempted all elements of the paper within the time allowed and most showed a good level of skill. The database search was particularly well executed with the majority of candidates locating the correct records. Some candidates did not achieve marks due to not following the instructions carefully, insufficient software knowledge or typographical errors which could have been avoided with careful checking and proofreading. Creating a drop control in a form proved the most challenging part of the paper. Whilst most candidates were able to create a control of some sort, few were able to make it function correctly. There was often insufficient evidence that data entry had been limited to the data in the table or that this was saved in the correct field in the correct table.

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

Text to be entered by the candidate as part of a task is displayed in bold on the question paper. Marks are available for accurate data entry of this text which must be keyed exactly as shown, including punctuation

and capitalisation. Candidates are advised to carefully check their data entry to ensure it matches the text on the question paper. Common errors include incorrect capitalisation, incorrect or missing characters, omission of spaces, truncated headings and superfluous punctuation.

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

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

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. Work should not be stapled. Hole-punching work and securing it with treasury tags or string is permitted but care should be taken not to obscure text with the punch holes. Centres should return the Supervisor's Report Folder with the candidates' work. This identifies the software used and can be helpful if issues were experienced during the practical test.

## Comments on specific questions

### Task 1 – *The Evidence Document*

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

### Task 2 – *Document*

### Question 1

All candidates opened the correct file and most saved it with the required file name although some did not enter the file name in capitals, or it contained data entry errors. A few candidates incorrectly saved the file in the original RTF format rather than the format of the word processing software being used. Most candidates produced a screenshot of the folder contents after the file had been saved which provided the evidence required. In some instances, the save evidence was inconclusive as it showed the save in process rather than capturing the folder contents showing the outcome of the save. The screenshot occasionally provided no evidence of the file type with only the file name displayed. Most candidates retained the page setup settings as instructed.

### Question 2

A number of candidates did not attempt to remove the two page breaks from the recalled text. Those that did often lost the spacing between the paragraphs or joined the paragraphs together therefore losing the paragraph breaks completely. In the process of removing the page breaks a few candidates deleted part of the recall text and/or punctuation.

**Question 3**

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

**Question 4**

Most candidates applied two equally spaced columns to the correct text, with the required spacing between the columns. Some candidates displayed the entire document in two columns or included the last paragraph in their selection, therefore not controlling the display of the columns. A few candidates left the space between columns at the default or set it much larger than 1.5 centimetres. The initial column break was occasionally positioned below rather than above the first subheading. Occasionally, a page break was inserted instead of a section break. The final full stop of the penultimate paragraph was not always included in the column selection.

**Question 5**

Most candidates sorted the bulleted list into alphabetical order. A few candidates did not attempt the sort, and some lists were partially sorted with '*companion planting'* and '*crop rotation*' in the wrong order suggesting the list had been rearranged manually instead of using an automated sort.

**Question 6**

The majority of candidates were able to change the rounded bullets to an appropriate star-shaped symbol. The bullets were usually successfully indented the required distance from the left margin. Occasionally the text instead of the bullets was indented the specified distance, or the indent was more than two centimetres. A small number of candidates did not apply the new bullets to all six items and/or did not indent all six items.

**Question 7**

The creation and storage of the new subhead style was well done by most candidates. Common errors included capitalisation or typographical errors in the style name and an underscore used instead of a dash.

A number of candidates did not base the style on the 'default' or 'normal' paragraph style as instructed. The style was generally formatted correctly although some candidates applied additional formatting which was not listed, such as a bullet and hanging indent. Some candidates incorrectly entered 'serif' as the font name which is not a recognised named font style. A named font style with attributes of the serif typeface category must be selected and applied. Other candidates set '*Arial*' as the font style name which is not a serif font style. A screenshot of the *OF-subhead* style provided details of the settings created and in **Question 8** the formatting of all five subheadings needed to match the settings seen in the **Question 7** screenshot. A few screenshots were cropped so some of the style settings were not seen, and therefore marks could not be awarded.

**Question 8**

Most candidates correctly applied the subhead style they created in **Question 7** to the supplied subhead text in the recall document. Occasionally the formatting did not match the settings seen in the Evidence Document screenshot. This was common where bullets and a hanging indent had been applied to the style in **Question 7** but the subheads in the document did not contain bullets and therefore did not match the subhead style evidence seen in **Question 7**. A few candidates did not print the Evidence Document or applied the formatting without providing screenshot evidence of creating the subhead style and therefore did not achieve the style application marks.

**Question 9**

Most candidates located the table and deleted the correct column. A few candidates deleted the column contents but left the empty column in place.

**Question 10**

Most candidates formatted the first row of the table, so it was merged with the text centre aligned over the four columns. A small number of candidates merged the first column instead of the row.

**Question 11**

Candidates who adjusted the table width to 10.5 centimetres usually centred the table within the column width and displayed the text in each row on one line. Some candidates did not attempt to change the table width or to centre align the table within the margins. In these cases, it was common for the data in the first column to be wrapped within the cell and not displayed on one line. Some candidates centred the data within the table instead of centring the table itself within the column width.

**Question 12**

Indenting the paragraph from both margins and applying formatting produced a mixed response. It was common for candidates to indent more than one paragraph or not to indent the text from both margins. Occasionally the left and/or right indents were larger than 1.5 centimetres. The external border was occasionally not changed to a 3- to 4-point border. The light grey background fill was often applied to the text and not as a background fill to the paragraph.

**Question 13**

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

**Task 3 – *Database***

**Question 14**

Importing the csv files and setting the primary keys were usually well done. Some candidates did not set the data types as given on the question paper which resulted in import errors if *Telephone* was imported as numeric/integer instead of alphanumeric as instructed. Candidates should be aware that telephone numbers are stored as an alphanumeric/string data type as no calculation will be performed on these values. Other errors included not importing the date field in DMY format or formatting as dd-MMM-yy which resulted in missing dates, setting the Boolean field as a numeric or text data type and displaying as a tick box, True/False or –1/0 and *Gender* occasionally set as a Boolean data type. Screenshot evidence was occasionally cropped so not all ten fields were shown in the candidates table or nine fields in the degrees table. A few candidates incorrectly included ID fields in their table structures, and some provided screenshot evidence of steps in the Import wizard which did not always show all the data types, or the primary keys set. Occasionally screenshot evidence was provided for one database table only.

**Question 15**

Most candidates created a relationship between the tables, but the screenshot evidence supplied did not always evidence a one-to-many join. 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 16**

This report used fields from both tables and was completed well by most candidates. The report title was usually entered at the top of the report in a larger font size but was not always centre aligned as instructed. Occasionally the title contained data entry or capitalisation errors or displayed additional text such as '*Query 1*' in the title area. The '*g*' descenders on the title were not always fully visible if the text box had not been adjusted to accommodate the larger font size. The main errors seen were locating those records of 25 or more in the *Age_Oct24* field with some candidates confusing the greater than (>) and less than (<) operators, and some not including those records equal to (=) 25. The sort was not always set for both fields with the records only sorted in ascending order of *Age_Oct24*. Most included the correct fields, but these were not always in the correct order particularly where the sort order had been set during the creation of the report which automatically places the two sort fields as the first two fields in the report. Setting the sort order in the report structure after the report has been created will help prevent these issues. Occasionally the last field *Work_exp* was missing from the report. The report required some manipulation to fit to a single page wide whilst ensuring all the field headings and data were fully visible. Occasionally data in one or more fields, most commonly *First_name*, *Last_name*, *Telephone* and *Subject*, was truncated. The calculation to find the age of the oldest candidate (MAX) was not always correct with COUNT occasionally used. A few candidates placed this calculation in the page footer, so it appeared on every page, instead of the report footer so it displayed at the end of the report. The label was usually entered to the left of this value but often contained typographical and capitalisation errors and/or a superfluous colon. The screenshot to show the database formula used was often truncated so it was not possible to assess which field the calculation was based on. Some candidates did not provide evidence that they had used a calculated control for the database formula. Identification details were often entered in the report footer so they only appeared on the last page of the report rather than in the page footer so they printed at the bottom of every page. Most presented the report in landscape orientation with the fields and data fitting a single page wide but only a limited number of candidates manipulated the data so it printed on two pages only.

**Question 17**

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

**Question 18**

Creating a functioning drop down control proved challenging and produced a mixed response. A few candidates produced no evidence for this question. Most candidates that provided evidence were able to create a control of some sort that listed the ISO codes from the country codes table in alphabetical order. The control created was not always a drop down menu with a number of list boxes, text boxes and other types of control seen. Some created an unbound control so the ISO code could not be selected. The label and control were usually placed in the correct position. The control label *Country code* often contained errors such as *Country* as *County*, *code* as *Code*, an underscore between the words and occasionally it was incorrectly labelled *ISO_code*. Less candidates provided evidence of limiting the data entered to the options in the list or that the selected option would save in the *Nationality* field of the candidates table. There were still a good number of successful attempts at creating the drop down menu, but few candidates provide sufficient screenshot evidence to achieve full marks for the whole process.

**Question 19**

Screenshot evidence did not always show the new record entered in the form with some capturing the screenshot from form design view, or the form displayed the first record in the table which provided no evidence of accurate data entry for the new record. All the data needed to be entered accurately including *ESP* selected from the drop down menu for the country code. Occasionally the data contained data entry or capitalisation errors.

**Task 4 – *Presentation***

**Question 20**

Most candidates successfully imported the eight slides and presented each as a title and a bulleted list. A small number of candidates imported the data but did not display bullets on the slides or made changes to

the recalled text on some of the slides. Marks were not awarded where incorrect software had been used such as the RTF file opened, manipulated and printed in word processing software.

**Question 21**

Most candidates correctly entered their identification details in the footer and automated slide numbers in the top right of the header, so these displayed in a consistent position on all slides in the presentation. Candidate identification details were accepted in any consistent position in the footer. Occasionally the slide numbers were presented in the default position or placed on the top left of the slide. A small number of candidates did not use automated slide numbers and entered 1 in the header, so this appeared on every slide.

**Question 22**

Most candidates attempted to format the bullets and 5 lines of text as shown on the question paper, but few achieved full marks for this question. Most applied a dashed bullet style and indented the list but there was not always a space between the dash and the text, or the space was inconsistent. Most decreased the text font size for these items, but a common error was not applying italic enhancement to this text.

**Question 23**

Most candidates deleted the correct two slides from the presentation. Occasionally only one of the two slides had been deleted.

**Question 24**

Most candidates opened the correct source file and used this data to create a pie chart. Some were unable to demonstrate the ability to select non-contiguous data and as a result included all the data in their selection instead of displaying the economic sector emissions for year 2020 only.

**Question 25**

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 '*emissions'* and '*economic'.* The title was not always displayed as shown with some entering the text in uppercase or with each word capitalised.

**Question 26**

Controlling the display of the sector labels was not always well done. A number included MTCO2e and/or the values as well as, or instead of, the economic sector names and percentages. The sector labels were not always displayed outside each chart sector with many candidates not changing the software default. A legend was often displayed when the chart data selection was incorrect.

**Question 27**

A number of candidates did not attempt to enhance the chart display by pulling out the *Agriculture, Forestry and other Land Use* sector. Occasionally the chart was exploded so all the sectors were pulled away instead of just the single sector.

**Question 28**

Most candidates placed the chart to the left of the bullets on the correct slide. Occasionally this was incorrectly placed to the right or below the bulleted text. Not all candidates resized the data label shapes so the words were not split. Quite commonly the text *Manufacturing/Construction* was split in the middle of the word. The chart was usually positioned so it did not overlap any slide items.

**Question 29**

Most candidates positioned a shape to the right of the five indented bullet items and resized this correctly. Occasionally the aspect ratio was lost with the shape distorted where the shape height and width were not the same. Any type of sun shape was accepted but some candidates were not successful in locating a sun shape so drew the shape. Most candidates attempted to create a hyperlink from the shape to the correct slide. However, evidence of the hyperlink applied to the shape was often insufficient as the screenshot did not show the shape as well as the open hyperlink dialogue box. Candidates must provide evidence that the

link is applied to the shape along with the hyperlink dialogue box showing the link to the correct slide. A few candidates produced no screenshot evidence of the hyperlink.

**Question 30**

Most candidates printed the full presentation in portrait orientation with two slides to the page, each filling half the page. A small number of candidates printed in landscape instead of portrait orientation and a few printed six single full-page slides.

**Task 5 – *Printing the Evidence Document***

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

# INFORMATION AND COMMUNICATION TECHNOLOGY

**Paper 0417/03**
**Spreadsheets and Website Authoring**

## Key messages

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

- Candidates must ensure that they include their candidate details in the correct place on all printouts.
- Candidates need to understand the importance of following the instructions on the question paper.
- Candidates need to take greater care with the accuracy of data entry.
- Candidates need to ensure that all spreadsheet column widths are wide enough to display the data/formulae whilst using a font size large enough to enable Examiners to read the work, without the use of magnification devices.
- Candidates need to be able to identify which spreadsheet function is the most appropriate for a task.
- Candidates need a better understanding of HTML syntax, particularly the appropriate use of head, body and meta tags.
- Candidates need a better understanding of CSS syntax, particularly the appropriate use of classes.
- Candidates need a better understanding of the syntax of both CSS and HTML and apply each appropriately, ensuring that external cascading stylesheets do not contain any HTML.

## General comments

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

The majority of candidates were able to produce the Evidence Document using a word processing package. There were more examples of scripts with one or more print outs having no name or candidate details than in previous sessions.

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

## Comments on specific questions

### *Task 1 – Evidence Document*

Almost all candidates created an Evidence Document.

### *Task 2 – Spreadsheet*

#### Question 1

The file was used and saved with the correct file name by most candidates, although not all candidates saved their work as a spreadsheet with a number of files still saved in .csv format. Almost all candidates placed their name, centre number and candidate number left aligned in the header. Fewer candidates placed the text with correct capitalisation and spacing followed by the automated date on the right in the header. Some candidates mixed up the elements needed on the right and the left sides or included punctuation such as a colon after the text Created by . A number of candidates did not display the correct date.

**Question 2**

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

- cells D3 and E3 were not merged across the 2 columns as shown in the diagram
- one or more cells in the range B8 to E8 not wrapped as shown
- one or more cells in row 8 not centre aligned vertically
- one or more cells within the ranges A4 to A6, D4 to D6 and F4 to F6 were not right aligned
- cells in rows 3, and 8 onwards were not centre aligned horizontally.

**Question 3**

This was completed well by many candidates using a SUM function with the correct range set with relative cell references. An error seen in a significant number of scripts included a reference to cell A9 added to the correct range of cells. Some candidates attempted this question using a COUNT function which was not appropriate for this task.

**Question 4**

This step was performed well by many candidates using an AVERAGE function and the range F9:AC9 with relative cell references. Some candidates included a reference to cell A9 added to the correct range of cells.

**Question 5**

More candidates attempted the nested IF statement than in previous sessions. There were some very good answers including the use of correct syntax and logic. Some candidates only provided a single tier IF statement and some who preferred a 3-tier solution, but in general more candidates than usual provided the efficient 2 tier nested IF. An incorrect answer that was often seen was the use of C9 is greater than or equal to, rather than C9 is greater than. A large number of candidates used the text – high, medium, low in place of references to cells D4 to D6. There were also a number of candidates who tried to use a range instead of a cell reference. A significant number of candidates did not apply the correct absolute and relative cell references within their formulae, often omitting absolute references to cells in the range D4:E6. Where candidates opted to reverse the logic (which was perfectly acceptable), some candidates erroneously elected to use C9 is less than rather than less than or equal to the cell in column E.

**Question 6**

A significant number of candidates did not attempt this task. Most candidates who did attempt it, used a VLOOKUP or XLOOKUP function for this step and multiplied the result by the contents of cell B9. As the data to be ‘looked up’ was not sorted into order, a LOOKUP function was not appropriate for this task. Sometimes candidates incorrectly used relative referencing for the range of cells within their chosen look up function.

**Question 7**

Replication of the formulae was not always successful. There was sometimes a difference between the formula in row 9 (the first row) and the rest of the column. Some candidates only replicated some formulae to row 37 instead of 38.

**Question 8**

Most candidates who displayed values in this column, formatted them in dollars with 2 decimal places.

**Question 9**

Some candidates found this step challenging and did not attempt a response. Those who did attempt it, often used COUNTA and COUNT instead of COUNTIF. Many appeared to ignore the 'replicable' part of the question opting to use text like 'High' rather than a relative reference to cell D4. This meant that there were relatively few candidates awarded the replication mark for this question.

**Question 10**

A significant number of candidates did not produce a formula print out. Of those that did, most were able to set the orientation to portrait, but sometimes did not display row and column headings. There were also a large number of candidates who printed all of the data instead of setting the print area to A1 to F38. Not all candidates expanded the column widths so that the replicated formulae were fully visible.

**Question 11**

A significant number of candidates found this question challenging and did not show evidence of attempting this question. Some candidates did not use conditional formatting and appeared to set the background colours manually in each cell. Some scripts contained screen shots of just column D without any evidence to support the use of conditional formatting. Where candidates had used conditional formatting their choice of foreground and background colours did not always allow the text to be easily read by a user, particularly when printed in greyscale.

**Question 12**

Many candidates did not change the font colour of cells F8 to AC38 to white so the data here was still visible on their values print out. Other candidates did not produce a values print out that fitted on a single page. A significant number of scripts did not display all the required cells in columns A to F as fully visible. Some candidates also hid rows 1, 3 and sometimes 8 which was not required in any of the question paper tasks and should have been visible in this printout.

***Task 3 – File management***

Most candidates completed this question as required.

***Task 4 – Web page***

**Question 13**

Many candidates found this challenging. Most did not use a class, omitting the dot before the class name; but more candidates were successful in providing the correct hexadecimal code of #FF0000 for red. Some candidates erroneously placed this either in the head section of the HTML, or in a new stylesheet rather than adding it to n24web.css. A significant number of candidates did not edit the CSS themselves, instead allowing the package to create styles or classes named by the WYSIWYG web authoring program e.g. ‘newstyle1’ or ‘autostyle’.

**Question 14**

This proved challenging for many candidates, very few of them edited the HTML and set the table border to 0.

**Question 15**

The majority of candidates were successful in setting the text in cells A and B to h1 and h2 respectively. There were, however, a number of candidates who removed the text in cell A and replaced it with other text, for example 'Web programming tips' or their candidate details. Another common omission was to set h3 around all the rest of the text in cell B, but not to maintain the paragraphs within it. Most candidates appeared to find the application of the classes .red and .centre to the appropriate text challenging as this was rarely seen completed as specified. Some candidates successfully applied the class red to the text of the numbered titles but omitted the number. A significant number erroneously attempted this with tags such as <red> and <centre>. The bulleted list in cell F caused some challenges for candidates. Most candidates attempted to use the tags <ul> and <li> appropriately but did not always place them in the correct places to define the bulleted paragraphs.

**Question 16**

Many candidates completed this step as instructed, although some did not place the title in the head section. A number of typographical errors were seen in the title text. A small number of candidates left the web page title as their WYSIWYG packages default ‘untitled’.

**Question 17**

Many candidates completed this step as instructed, although some did not place the default target window in the head section.

**Question 18**

Many candidates completed this task with 100 per cent accuracy, a small number did not place the anchor around the text. Some candidates erroneously included a file path to the file n24html.htm.

**Question 19**

A number of candidates completed the hyperlink with 100 per cent accuracy, a small number did not place the anchor around the text. Some candidates erroneously included a file path to the file n24css.htm. Fewer candidates set this hyperlink reference to open in a new target window using the target attribute.

**Question 20**

This question proved challenging to many candidates. Few candidates appeared to understand the structure of the required metatags for specifying the character set using **<meta charset="UTF-8">** and naming and defining the description and appropriate contents of the web page like **<meta name="description" content="Page to assist trainees to develop HTML and CSS skills">**. Some candidates placed a set of keywords rather than the text for the content.

**Question 21**

Most candidates added their HTML source and a browser view screen shot of the page to their Evidence Document, but some did not show the address bar in the screen shot.

***Task 5 – Printing the Evidence Document***

This was printed as specified by almost all candidates.