

# APPLIED ICT

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Paper 9713/11

Written A

## Key Messages

Overall, candidates appeared to have been fairly well prepared for this assessment.

Candidates showed a reasonable level of understanding, although there are still areas of the syllabus which appear to be left untouched by many candidates.

On much of the paper some elaboration and detail is required in responses. It is not sufficient to give brief answers.

Where candidates are required to give advantages and disadvantages it is important that comparisons are made rather than just giving features.

Questions requiring simple and straightforward answers were done well, while the answers to more stretching questions needed to contain more explanation or discussion.

Centres are again reminded that this is 'Applied ICT' and candidates are expected to apply their knowledge to the context of the scenario. It is important for candidates to realise that they need to refer back to the scenario when answering questions.

The lack of neatness in candidates' handwriting did cause some concern.

## General comments

Some questions which required choosing from a list such as **Questions 1** and **2** were answered very well. This approach to answering other questions may be advisable where candidates could list their thoughts in rough before choosing those that would be appropriate both to the scenario and to the phrasing of the question.

There still appeared to be a degree of rote-learned answers from previous years' mark schemes. Rote-learning mark schemes is strongly advised against as, although questions might cover a similar topic, the questions themselves might change considerably. This was particularly the case with **Question 5** where many candidates compared video conferencing to face to face conferences rather than with phone conferencing. In **Question 10b** candidates reproduced lists of the components of a systems life cycle. Others described the features of data capture forms which appeared to have been learnt off by heart.

In this paper, as with any exam paper at this standard, candidates are required to show a level of understanding as well as a depth of knowledge. As has been highlighted in previous reports, this cannot be achieved by simply repeating mark points from previous mark schemes.

Candidates must read questions carefully before answering. This was particularly the case with **Question 8a** where some candidates included items related to pay even though the question explicitly told them not to do so. It was also the case with both parts of **Question 4** where the uses had to be different yet candidates frequently repeated them.

## Comments on specific questions

### Question 1

Candidates did very well on this question. The small minority who did not achieve full marks seemed to think phone calls would be cheaper.

### Question 2

The majority of candidates gained all four marks for this question. Of those candidates that did not, the incorrect answers seemed to be equally divided.

### Question 3

The better candidates were successful with this question but the weaker candidates often did not achieve a mark. Many candidates still think the sensors control the heating system or that the microprocessor sends messages to sensors to turn on the heater. A large number also described an air conditioning system rather than a central heating system.

### Question 4

Candidates, generally, performed reasonably well on this question with part (a) producing better responses than part (b)

- (a) Many candidates correctly identified a hardware device but then gave a statement of its general purpose rather than describing how it would be used by the salesperson to perform specific tasks. Candidates often did not address the scenario or, despite the question saying otherwise, gave similar uses.
- (b) In general, this part was only answered well by the stronger candidates. Again there was vague answers such as “use a word processor to write documents”, “use a spreadsheet to do calculations”. It was also quite common to see application package brand names being used in spite of the warning in the syllabus and warnings given in previous Examiner reports about the use of brand names.

### Question 5

Better candidates scored well here while the weaker candidates resorted to generalisations such as ‘you can see people’ or ‘it is cheaper than phone conferencing’. The answers which related to the advantages of video conferencing were significantly better than those related to the disadvantages. Many showed a clear understanding of video conferencing and its benefits in company meetings. However several candidates described the advantages of video conferencing compared to face to face rather than a comparison with phone conferencing.

### Question 6

This question was not as well answered. The use of DTP was not fully understood by many. Candidates lost marks by not answering the question in relation to the scenario - a teacher preparing lessons, so lost marks for very general answers. Some candidates appeared to think that DTP had something to do with the use of a projector for presentations. Many answers ignored the scenario entirely while others were far too general such as for the Web browser - ‘the teacher can search for information’.

### Question 7

Candidates did not perform as well on this question as expected. Many candidates did not achieve marks because they concentrated on illnesses caused, supposedly, by ICT, the loss of electricity and the unemployment caused to the teaching profession when ICT alone teaches them. Many weaker candidates indicated teacher unemployment would increase due to online training.

### Question 8

- (a) This part was generally well answered. The most common errors from those candidates who had difficulty were to include items like number of hours worked, rate of pay, tax history etc. This was the case even though the question pointed out that these items should not be included. The question simply required the names of the fields but a number of candidates included long explanations.

- (b) Despite most candidates gaining at least half marks there were surprisingly few completely correct answers for this part of the question. Most produced a new/updated master file but other sections were often wrong. New transaction files were a popular wrong output and the new master file was sometimes found in the process box. Most candidates achieved at least half of the available marks for correctly identifying the transaction file and the new master file.

### Question 9

Overall, this question produced the weakest responses on the whole paper.

- (a) Candidates did not do well on this part with many candidates failing to achieve a mark. This part proved difficult for many candidates. Candidates had a good idea about the uses of DFD but could not relate this to answering this type of question. Many candidates just repeated the question by referring to choosing hardware but with little or no reference to a DFD.
- (b) Candidates did slightly better on this part but still did not achieve many marks. The answers given were very vague and the majority of candidates focused on an 'old system' and the improvements that could be made. Many answers just described fact finding methods such as questionnaires, interviewing etc. with little indication of why it was done

### Question 10

Generally candidates did slightly better on this question than **Question 9**. However, a substantial number did not attempt the question.

- (a) Very few candidates appeared to know what was meant by indexed sequential files and magnetic tape was a very common storage suggestion. A surprising number also suggested a spreadsheet was a good choice of storage medium. Few candidates were able to give a detailed description of indexed sequential storage. Most answers were very vague and failed to explain clearly either what is meant by indexed sequential storage or why it is appropriate in this case. Some candidates suggested the use of applications such as databases for storage rather than media and many chose inappropriate media such as CD, flash drives or floppy disks.
- (b) This proved very difficult for many candidates as they did not fully understand 'file structure' so they described a 'whole' system including input and output devices, system testing and gathering user information. Better candidates answered this well. Weaker candidates described a data capture form and mentioned things like good spacing, instructions on how to fill out the form etc.

### Question 11

Most candidates gained marks on this question.

- (a) Many candidates gained at least one of the two marks available, however some candidates appeared to mix up confidentiality and fidelity.
- (b) Candidates who had learned about data protection gained high marks on this question. Unfortunately too many had not and gave answers which were more appropriate for part (c).
- (c) The differences between duty of fidelity and duty of confidence were often confused. Candidates who clearly understood the role of a confidential agreement and the different methods to ensure the confidentiality of data gained high marks on this question. Some candidates gave vague responses related to security or data protection which could not gain any credit.

## Question 12

Generally candidates did fairly well on this question. Part **(d)** produced the best answers with part **(c)** the weakest.

- (a)** This was fairly well answered with the majority of candidates gaining at least one mark. A number of candidates gained two marks for correct devices but lost marks describing them.
- (b)** This was not well answered. It was expected that this would be a fairly straightforward question. Marks were often lost for lack of description. Words such as cropping, resizing etc. were given without a reasonable explanation of what they meant. Many lost marks for tautological descriptions such as ‘the crop tool allows you to crop an image’.
- (c)** Few candidates gained marks on this question as they did not read the question fully and relied on the internet to provide images. Very few made any reference to libraries or galleries and gave answers such as the internet or camera phone.
- (d)** Most candidates gained at least one of the two marks available. Most scored at least one mark for suggesting the risk of job losses for workers and a number of candidates were able to make a second sensible suggestion.

# APPLIED ICT

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Paper 9713/12

Written A

## Key Messages

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Candidates showed a reasonable level of understanding, although there are still areas of the syllabus which appear to be left untouched by many candidates.

On much of the paper some elaboration and detail is required in responses. It is not sufficient to give brief answers.

Where candidates are required to give advantages and disadvantages it is important that comparisons are made rather than just giving features.

Questions requiring simple and straightforward answers were done well, while the answers to more stretching questions needed to contain more explanation or discussion.

Centres are again reminded that this is 'Applied ICT' and candidates are expected to apply their knowledge to the context of the scenario. It is important for candidates to realise that they need to refer back to the scenario when answering questions.

The lack of neatness in candidates' handwriting did cause some concern.

## General comments

Some questions which required choosing from a list such as **Questions 1** and **2** were answered very well. This approach to answering other questions may be advisable where candidates could list their thoughts in rough before choosing those that would be appropriate both to the scenario and to the phrasing of the question.

There still appeared to be a degree of rote-learned answers from previous years' mark schemes. Rote-learning mark schemes is strongly advised against as, although questions might cover a similar topic, the questions themselves might change considerably. This was particularly the case with **Question 5** where many candidates compared video conferencing to face to face conferences rather than with phone conferencing. In **Question 10b** candidates reproduced lists of the components of a systems life cycle. Others described the features of data capture forms which appeared to have been learnt off by heart.

In this paper, as with any exam paper at this standard, candidates are required to show a level of understanding as well as a depth of knowledge. As has been highlighted in previous reports, this cannot be achieved by simply repeating mark points from previous mark schemes.

Candidates must read questions carefully before answering. This was particularly the case with **Question 8a** where some candidates included items related to pay even though the question explicitly told them not to do so. It was also the case with both parts of **Question 4** where the uses had to be different yet candidates frequently repeated them.

## Comments on specific questions

### Question 1

Candidates did very well on this question. The small minority who did not achieve full marks seemed to think phone calls would be cheaper.

### Question 2

The majority of candidates gained all four marks for this question. Of those candidates that did not, the incorrect answers seemed to be equally divided.

### Question 3

The better candidates were successful with this question but the weaker candidates often did not achieve a mark. Many candidates still think the sensors control the heating system or that the microprocessor sends messages to sensors to turn on the heater. A large number also described an air conditioning system rather than a central heating system.

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- (b) In general, this part was only answered well by the stronger candidates. Again there was vague answers such as “use a word processor to write documents”, “use a spreadsheet to do calculations”. It was also quite common to see application package brand names being used in spite of the warning in the syllabus and warnings given in previous Examiner reports about the use of brand names.

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This question was not as well answered. The use of DTP was not fully understood by many. Candidates lost marks by not answering the question in relation to the scenario - a teacher preparing lessons, so lost marks for very general answers. Some candidates appeared to think that DTP had something to do with the use of a projector for presentations. Many answers ignored the scenario entirely while others were far too general such as for the Web browser - ‘the teacher can search for information’.

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### Question 8

- (a) This part was generally well answered. The most common errors from those candidates who had difficulty were to include items like number of hours worked, rate of pay, tax history etc. This was the case even though the question pointed out that these items should not be included. The question simply required the names of the fields but a number of candidates included long explanations.

- (b) Despite most candidates gaining at least half marks there were surprisingly few completely correct answers for this part of the question. Most produced a new/updated master file but other sections were often wrong. New transaction files were a popular wrong output and the new master file was sometimes found in the process box. Most candidates achieved at least half of the available marks for correctly identifying the transaction file and the new master file.

### Question 9

Overall, this question produced the weakest responses on the whole paper.

- (a) Candidates did not do well on this part with many candidates failing to achieve a mark. This part proved difficult for many candidates. Candidates had a good idea about the uses of DFD but could not relate this to answering this type of question. Many candidates just repeated the question by referring to choosing hardware but with little or no reference to a DFD.
- (b) Candidates did slightly better on this part but still did not achieve many marks. The answers given were very vague and the majority of candidates focused on an 'old system' and the improvements that could be made. Many answers just described fact finding methods such as questionnaires, interviewing etc. with little indication of why it was done

### Question 10

Generally candidates did slightly better on this question than **Question 9**. However, a substantial number did not attempt the question.

- (a) Very few candidates appeared to know what was meant by indexed sequential files and magnetic tape was a very common storage suggestion. A surprising number also suggested a spreadsheet was a good choice of storage medium. Few candidates were able to give a detailed description of indexed sequential storage. Most answers were very vague and failed to explain clearly either what is meant by indexed sequential storage or why it is appropriate in this case. Some candidates suggested the use of applications such as databases for storage rather than media and many chose inappropriate media such as CD, flash drives or floppy disks.
- (b) This proved very difficult for many candidates as they did not fully understand 'file structure' so they described a 'whole' system including input and output devices, system testing and gathering user information. Better candidates answered this well. Weaker candidates described a data capture form and mentioned things like good spacing, instructions on how to fill out the form etc.

### Question 11

Most candidates gained marks on this question.

- (a) Many candidates gained at least one of the two marks available, however some candidates appeared to mix up confidentiality and fidelity.
- (b) Candidates who had learned about data protection gained high marks on this question. Unfortunately too many had not and gave answers which were more appropriate for part (c).
- (c) The differences between duty of fidelity and duty of confidence were often confused. Candidates who clearly understood the role of a confidential agreement and the different methods to ensure the confidentiality of data gained high marks on this question. Some candidates gave vague responses related to security or data protection which could not gain any credit.

## Question 12

Generally candidates did fairly well on this question. Part **(d)** produced the best answers with part **(c)** the weakest.

- (a)** This was fairly well answered with the majority of candidates gaining at least one mark. A number of candidates gained two marks for correct devices but lost marks describing them.
- (b)** This was not well answered. It was expected that this would be a fairly straightforward question. Marks were often lost for lack of description. Words such as cropping, resizing etc. were given without a reasonable explanation of what they meant. Many lost marks for tautological descriptions such as ‘the crop tool allows you to crop an image’.
- (c)** Few candidates gained marks on this question as they did not read the question fully and relied on the internet to provide images. Very few made any reference to libraries or galleries and gave answers such as the internet or camera phone.
- (d)** Most candidates gained at least one of the two marks available. Most scored at least one mark for suggesting the risk of job losses for workers and a number of candidates were able to make a second sensible suggestion.

# APPLIED ICT

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Paper 9713/13

Written A

## Key Messages

Overall, candidates did not appear to have been well prepared for this assessment.

Candidates failed to show a reasonable level of understanding as there are were a number of areas of the syllabus which appear to be left untouched by many candidates.

On much of the paper some elaboration and detail is required. It is not sufficient to give brief answers.

Where alternatives are given in the question and reasons why a particular one should be chosen it is important that comparisons are made rather than just giving features.

Questions requiring simple and straightforward answers were done fairly well, while the answers to more stretching questions needed to contain more explanation or discussion.

Centres are again reminded that this is 'Applied ICT' and candidates are expected to apply their knowledge to the context of the scenario. It is important for candidates to realise that they need to refer back to the scenario when answering questions.

Neatness of handwriting proved to be less of an issue in this session.

## General comments

Some questions which required choosing from a list such as **Questions 1** and **2** were answered very well. This approach to answering other questions may be advisable where candidates could list their thoughts in rough before choosing those that would be appropriate both to the scenario and to the phrasing of the question.

There still appeared to be a degree of rote-learned answers from previous years' mark schemes. Rote-learning mark schemes is strongly advised against as, although questions might cover a similar topic, the questions themselves might change considerably. This was particularly the case with **Question 9b** where some candidates answered for payroll rather than the processing of customer bills.

In this paper, as with any exam paper at this standard, candidates are required to show a level of understanding as well as a depth of knowledge. As has been highlighted in previous reports, this cannot be achieved by simply repeating mark points from previous mark schemes.

Candidates must read questions carefully before answering. This was particularly the case with **Question 4a** where some candidates described email despite the question asking for how the story is produced ready for emailing. With **Question 9a** a number of candidates gave account number as an answer despite the phrasing of the question.

## Comments on specific questions

### **Question 1**

Candidates did quite well on this question. Most candidates found part **(b)** more difficult than parts **(a)** and **(c)**. It seemed that a number of candidates had not prepared well enough for this topic, though higher ability candidates gained either 2 or 3 marks out of the three available.

## Question 2

The majority of candidates achieved at least three marks for this question. Of those candidates that did not, the incorrect options chosen were fairly well distributed amongst the choices on offer.

## Question 3

This question was not well answered with only the more able candidates achieving more than three marks, who provided some excellent answers. Those candidates who attempted the question seemed to perform equally well on parts **(a)** and **(b)**.

- (a)** Many candidates attempted to invent names to match the letters P, L and C. with quite some imagination. One quarter of the candidates did not attempt this part of the question. Those candidates who had prepared well often achieved full marks.
- (b)** Again, there were some interesting interpretations of the letters P, I and D. One third of all candidates did not attempt this part. The more able candidates tended to gain two or three marks out of the three available.

## Question 4

Candidates, generally, performed reasonably well on this question with parts **(a)** and **(b)** producing much better responses than part **(c)**

- (a)** The vast majority of candidates gained at least one of the three marks available. However some candidates could only describe an input device or one item of software, few wrote about both. A number of candidates gave brand names for the software in spite of the warning given in the syllabus and warnings given in previous Examiner reports about the use of brand names.
- (b)** One in nine of the candidates made no attempt on this part. However, those that did attempt it tended to gain at least one mark with the more able gaining at least two of the three marks. Weaker answers tended to only mention choice of font or font size, rarely both whereas the more able often added kerning and leading.
- (c)** Candidates struggled with this part. Some referred to the scenario and mentioned the use of satellites to fax a copy, but this was often just a rewording of the scenario. Others failed to even acknowledge the scenario and referred to the use of fax machines.

## Question 5

This question was reasonably well answered with most candidates gaining at least five marks and the most able doing very well.

- (a)** The majority of candidates gained at least half marks. Many candidates were able to identify the method but failed to go on to give a relevant example. Some ignored the question and gave examples from the scenario. A number, once again, gave brand names.
- (b)** Many candidates were able to provide input devices but failed to describe examples of multimedia in sufficient detail.
- (c)** Most candidates were able to gain one mark but few gained more than this other than the most able. Many candidates were preoccupied with cost forgetting that the company would still have to pay website developers.
- (d)** Again, most candidates were able to gain one mark and an increased number gained two or three marks. Many candidates were able to give one difference but were unable to describe other differences in any detail.

### Question 6

This question was not very well answered. Most candidates did not seem to know very much about flexible hours or compressed hours.

- (a) Very few candidates seemed to know what flexible hours is. Many thought that you worked until you finished the task and then went home. Many seemed to have a small idea about compressed hours but could not put it into some form of rational explanation.
- (b) Many candidates appeared to mix up flexible hours with part-time hours and their responses reflected that misunderstanding.
- (c) A number of candidates gained a single mark for recognising that productivity would increase but did not add a second benefit.

### Question 7

Candidates performed quite well on this question although part (c) produced weaker responses than parts (a) and (b). All candidates managed to gain marks with the more able candidates gaining very good marks.

- (a) The majority of candidates were able to give a correct answer.
- (b) Even more candidates gained the mark for this part.
- (c) This question was answered well by candidates who recognised that only some of the stages would be delayed. Some candidates recognised the stages that were delayed but gave vague responses that failed to indicate the effect this had on the revised start or end time or length of delay.

### Question 8

In general, candidates did not perform well on this question. A small minority of candidates had prepared well on this topic and therefore gained some high marks. It was not unusual to see the very highest ability candidates gaining full marks. However, too many candidates did not seem to understand the topic and failed to gain any marks.

### Question 9

Overall, this question was not answered well even though the majority of candidates managed to gain a mark on part (a).

- (a) The majority of candidates were able to give one item but very few were able to provide more. Some suggested that the whole PIN would be divulged. A sizeable number of candidates gave account number despite what it said in the question.
- (b) Only the more able candidates performed quite well on this part. A number of candidates referred to payroll rather than producing customer bills.

### Question 10

Candidates, generally, did not perform well on this question; however, part (b) produced better responses than part (a).

- (a) Many candidates failed to make one good point with answers such as it has quicker data access times than disk or you can save data on tape or you can update data on tape.
- (b) Candidates did better than with part (a) but even then only the most able gained more than one mark. Some candidates referred to workers instead of customers. The weakest answers came in answer to an Amendment.

### Question 11

Candidates did not perform well on this question.

- (a)** The majority of candidates failed to make one good point. However, the most able often made at least two good points.
- (b)** The question asked the candidates to provide testing strategies but most wrote detailed descriptions of validation checks.
- (c)** Having not answered part **(b)** particularly well candidates were unable to go on and answer part **(c)** with any confidence. Many candidates who understood the question gave very vague answers like 'improve the validation rule' with no detail as to how this would be achieved.

# APPLIED ICT

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**Paper 9713/02**  
**Practical Test A**

## General Comments

The majority of candidates attempted and completed most elements of the paper. 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 although this appeared to be more challenging to some candidates than in previous sessions. Candidate errors were spread evenly over the sections of the paper, although the application of candidates' knowledge to produce appropriate database structures with the given naming conventions caused a number of candidates some issues. A significant number of candidates included the database structure and attempted the naming conventions. Generation of the evidence used to manipulate the data suitable for the creation of a valid chart caused many candidates a problem.

A small number of candidates did not print their name, Centre number and candidate number on some of the documents submitted for assessment. Without clear printed evidence of the author of the work, Examiners were unable to award any marks for these pages. It is not acceptable for candidates to annotate their printouts by hand with their name as there is no real evidence that they are the originators of the work.

Some candidates omitted one or more of the pages from the required printouts. Some partially completed the database report but only printed the first page. Some candidates did not realise that if printouts contained a significant number of pages then it may be worth checking their table structure or query criteria: extremes with a significant number of pages were seen. A small number of candidates submitted multiple printouts for some of the tasks and did not cross out those printouts that were draft copies. Where multiple printouts are submitted, Examiners will only mark the first occurrence of each page. Candidates must be aware of the dangers of cutting and pasting cropped versions of evidence in order to save space on a sheet. It often looks impressive but this invariably leads to the loss of crucial data which could achieve marks. Overall the paper performed very well.

## Comments on Specific Questions

### **Question 1**

This question was completed well by most candidates, as evidenced by their subsequent printouts of this evidence document.

### **Question 2**

The creation of the four tables was completed well by the vast majority of candidates. A significant number did not call the tables the names specified in the question paper, many tables having the J15 prefix in the table name or calling the Crew table Flightcrew or Flight\_Crew. Many more candidates did not use the specified field names, or follow the case or naming conventions given in the question. The most appropriate data types were selected by the majority of candidates. Most candidates showed evidence of their table structure. Key fields were generally correct for three of the four tables, but the Flight table was less frequently correct. Some candidates included an ID field to use for the primary key, although some of the best performing candidates used a compound key, often created using the Flight\_No and one or more other fields.

### **Question 3**

This question was completed well by most candidates, with evidence provided for the table structures.

#### Question 4

Most candidates created two of the three relationships correctly, few managed to achieve all three. It is important for candidates to study the data and determine which fields contain unique data before trying to create the relationships to link the tables.

#### Question 5

The initial query was relatively straightforward, with many candidates extracting the flights to and from Paris between the required dates. Of those who did not create the query correctly, many extracted flights to and from Paris, but did not include the date parameters on one of the two query criteria rows. A significant number of candidates ignored the instructions prior to **Question 1** that instructed dd/mm/yyyy format and hh:mm format for the time. Few candidates demonstrated these formats to all four of the date and time fields. There was a wide range of report titles; as a minimum, candidates should have referred to the dates in the query as well as a reference to Paris. Most candidates placed their candidate details in the footer. A significant number of candidates 'over-cropped' their images. Where "Between" was used, it frequently included both the 5/01/2015 and 25/01/2015.

#### Question 6

The majority of students attempting this question achieved the correct flights both in and out of Hong Kong and therefore attained the marks for this element. Fewer candidates listed the full names of all the flight crews; many listed the names of the crew leaders repeatedly in their place. Whilst the majority of candidates attempted to group the data as specified, few managed to complete this with 100% accuracy. This question differentiated well with a wide array of different formats and layouts offered by the candidates. Few candidates who had listed all the crew members kept each crew together on one page, rather than overlapping onto two pages.

#### Question 7

A significant number of candidates produced a crosstab query that had the correct row and column headings. This frequently counted the number of flights but was not always counted correctly. Some candidates exported the data and used a pivot table in a spreadsheet application to achieve similar results. A small number of candidates transposed the D\_Code and A\_Code fields as axis labels. A surprising number created the crosstab with accuracy but did not include the gridlines.

#### Question 8

This proved a challenging question for many candidates. Few showed adequate evidence of how they calculated the data, though more candidates showed the results of these calculations in tabular and chart form. A very small number of candidates realised that a visit could include an arrival, departure, or both, but in the case of both it was a single visit rather than two. Some candidates adequately labelled their chart, but many more did not include either a label or title.

#### Question 9

There were many excellent solutions to this problem in both the database and spreadsheet software. There was a tremendous variety of working solutions, some relatively simplistic and others using more complex methods. One aspect of this question that was not completed well was the sorting on two fields, which few candidates managed to achieve. Flights with a duration of 07:30 were frequently seen in this report.

# APPLIED ICT

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Paper 9713/31

Written B

## Key Messages

Many candidates appeared to have good subject knowledge and some excellent technical descriptions were seen. However, many candidates did not apply their knowledge to the given scenarios and to the context set in the questions and while they appeared to know the syllabus content quite well failed to score the top marks as their knowledge was not applied appropriately. It was also apparent that some candidates did not read the question carefully before attempting to answer it and seemed to look for 'key words' in the question and wrote answers based on those without applying their knowledge to the question or scenario. Candidates must read the scenarios carefully and they must apply their knowledge when answering the questions.

Some candidates did not attempt to answer all the questions and consequently lost the opportunity to score the marks. A number of candidates wrote extended or replacement answers in the white spaces on the exam paper or added extra pages to the answer booklet but made no reference or indication that they had done so; they left the Examiner to find the additional answers and risked not having them marked. While Examiners are trained to look for, and mark, additional answers, they cannot be expected to search every examination paper for a few lines of orphaned writing for every candidate; when candidates write additional or extended answers outside of the lines supplied, it is very important that candidates indicate on the main question paper that they have done so and where the Examiner can find the additional parts to their responses – a simple 'continued on..' would suffice.

When answering the questions, candidates must read the rubric and give the required number of responses where appropriate. Candidates who give too many or too few responses risk losing marks. Where a question asks for e.g. three descriptions then only the first three descriptions will be marked and subsequent descriptions will be ignored by the marker.

## Comments on specific questions

### Question 1

- (a) This question asked candidates to describe how specialist software could be used by disabled people to convert between text and speech. Good answers referred to how this was done rather than what it is e.g. the use of text to speech to 'read' documents to a user who is partially sighted, and the converse of using speech to text to create documents from the spoken word. Many candidates described text to speech or speech to text without describing how it was used. Too many candidates gave answers that referred to hardware such as a puff-suck switch which is not what the question asked for.
- (b) This question required answers other than 'conversion between speech and text' so it was disappointing to see so many candidates write about such software or methods. Good answers included sticky keys, filter keys, head pointers and other methods of entering data.

### Question 2

- (a) This question asked candidates to explain how the use of the internet enables disabled people to access health services. Many candidates gave good answers about the facilities and information that are available online but many gave vague, generic answers about the benefits of using the internet.
- (b) This question asked candidates to explain how the use of the internet enables disabled people to have greater job opportunities. Again, many candidates gave good answers about the facilities and

information that are available online but many gave vague, generic answers about the benefits of using the internet.

### Question 3

This question was about the features of some websites that make them hard for visually disabled people to view properly. Good answers included hard-coded font sizes, too many animations or moving objects and poor use of colour. There were, however, too many candidates who write about generic features of websites and so failed to score marks.

### Question 4

- (a) This question was about the steps taken by a customer when buying train tickets online. Marks were only awarded for the actual booking process and not for setting up accounts.

Most candidates could describe the steps and this question was well answered by most candidates with marks being awarded for inputting the departure/destination points and dates and times.

- (b) Most candidates answered this question well by including good descriptions of both the benefits and the drawbacks of buying tickets online.

### Question 5

- (a) Few candidates could give a concise description of what is meant by a 'just-in-time' stock control system. Good answers stated that it is system that ensures that an order is placed just as goods are running out of stock so that goods arrive at the distribution point as needed and are in time to be used immediately.

- (b) Most candidates could answer this well and gave good answers that included both the benefits and the drawbacks of using a computerised 'just-in-time' system such as lower warehouse costs because no excess inventory has to be stored, there is less over-stocking of goods and the fact that the store may not be able to respond to sudden changes in the demand for goods, delivery problems may lead to stock running out.

### Question 6

This question was about how the variable fields can be set up to control the selection of customers in a mail merge process. The question was not answered well by most candidates. Candidates are expected to be able to describe how this would be carried out.

### Question 7

- (a) (i) and (ii). Most candidates answered these questions quite well. However, too many candidates did little more than state the hardware or software without describing how it might be used.

- (b) This question was quite well answered by most candidates who could describe the processing. However, there were too many answers that lacked the detail necessary to score marks at this level.

### Question 8

This question was well answered by most candidates who could describe the various methods of market research that could be used to find out the effectiveness of advertising in the media.

### Question 9

- (a) Most candidates could state that an 'extranet' is an extension of an intranet but could not add any more detail such as allowing controlled access from outside the intranet.

- (b) Many candidates gave generic answers that referred to the use of the internet for remote working rather than describe the benefits and the drawbacks having an extranet that gives employees access to all the facilities of a company intranet when away from the company itself.

- (c) This was not answered as well as it might have been given that this is a simple topic. Vague answers such as 'faster' or safer' did not score marks. Good answers included the facts that dedicated cabling is more secure than Wi-Fi and can offer higher data transfer rates compared to wireless connections.

**Question 10**

Most candidates could not answer this question. A client-server system is a system in which the server hosts the programs and shares its resources with clients but the client does not share any of its resources with the server.

**Question 11**

Most candidates could explain that SSH is preferred over Telnet because it offers more security of data transfer by using encryption.

**Question 12**

Most candidates could answer this question well with good descriptions of network protocols. FTP and HTTP were the most common protocols described.

# APPLIED ICT

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Paper 9713/32

Written B

## Key Messages

Many candidates appeared to have good subject knowledge and some excellent technical descriptions were seen. However, many candidates did not apply their knowledge to the given scenarios and to the context set in the questions and while they appeared to know the syllabus content quite well failed to score the top marks as their knowledge was not applied appropriately. It was also apparent that some candidates did not read the question carefully before attempting to answer it and seemed to look for 'key words' in the question and wrote answers based on those without applying their knowledge to the question or scenario. Candidates must read the scenarios carefully and they must apply their knowledge when answering the questions.

Some candidates did not attempt to answer all the questions and consequently lost the opportunity to score the marks. A number of candidates wrote extended or replacement answers in the white spaces on the exam paper or added extra pages to the answer booklet but made no reference or indication that they had done so; they left the Examiner to find the additional answers and risked not having them marked. While Examiners are trained to look for, and mark, additional answers, they cannot be expected to search every examination paper for a few lines of orphaned writing for every candidate; when candidates write additional or extended answers outside of the lines supplied, it is very important that candidates indicate on the main question paper that they have done so and where the Examiner can find the additional parts to their responses – a simple 'continued on..' would suffice.

When answering the questions, candidates must read the rubric and give the required number of responses where appropriate. Candidates who give too many or too few responses risk losing marks. Where a question asks for e.g. three descriptions then only the first three descriptions will be marked and subsequent descriptions will be ignored by the marker.

## Comments on specific questions

### Question 1

There was some confusion by some candidates of part **(a)** and part **(b)**; part **(a)** referred to the processing of a user ID (user name) while part **(b)** referred to the processing of a password. Many candidates referred to both in both parts and did not focus their answers in order to gain the full three marks in each part.

- (a)** This question was about the processing that occurs when a user ID (user name) is used to attempt to gain access to a network. Some candidates described what a user ID (user name) is or does rather than how it is processed. Good answers included reference to the checking of the entered user ID (user name) against a stored database of user IDs (user names) and the subsequent actions when the user ID (user name) is found or not found.
- (b)** This question was about the processing that occurs when a password is used along with a user ID (user name) to attempt to gain access to a network. Despite not answering part **(a)** properly, many candidates could describe the processing of passwords. Again, a large minority of answers were a description of secure passwords and why it is required rather than the processing that happens when using a password to gain access to the network.

### Question 2

- (a) This question asked candidates to describe the benefits of using a WLAN. Many generic answers referring to the benefits of a network – some were already given in the scenario so scored few marks unless elaborated upon - rather than specifically a WLAN were seen. Good answers referred to the ability to use mobile devices in different areas of the School.
- (b) This question required candidates to describe the drawbacks of using a WLAN and good answers referred to the specific drawbacks of wireless connections: security concerns, interference from other devices, low signal strength with increased distance from connection or access point, and usually lower bandwidth than cabled networks. As with part (a), many generic answers about the drawbacks of networking were seen, these scored few marks.

### Question 3

Parts (a), (b), (c) and (d) were presented as choices for the candidates to tick the most appropriate answer and most candidates managed to score all the marks although there was some confusion between the use of FTP and UDP.

### Question 4

This question was about the features used to create a prototype of the bridge using CAD/CAM.

Many candidates could describe the features of CAD/CAM but could not relate these to the creation of a prototype bridge ready for testing and so failed to score many marks. Further, most focused on CAD and omitted any reference to the use of CAM to actually produce the prototype. Many described the testing being carried out in CAD rather than on the prototype. Good answers described features of CAD such as designing accurate drawings of bridge components by using a library of pre-prepared components to speed up design process, 3D views to allow walk-around of the prototype before creating the physical object, and the use of CAM with a list of instructions from CAD to control the manufacturing device such as a 3D printer to produce the prototype ready for testing.

### Question 5

(This question asked candidates to explain why a mainframe computer would be chosen to create and test a computer model of a bridge. Few candidates could explain that a mainframe computer would be needed to supply the high processing power that can handle the complex calculations required for testing the model. Many candidates merely described a mainframe in vague terms such as 'faster', 'bigger' etc. showing no technical knowledge at all.

### Question 6

Both parts (a) and (b) of this question were quite well answered by most candidates who managed to score at least three of the four marks available. Good answers were those related to the testing of the bridge rather than generic responses about using computers for modelling.

### Question 7

There were many marking points available for this question and it was pleasing to see that most candidates could achieve good marks. Good answers referred to e.g. Gantt, Pert charts, Critical Path Analysis and the identification of "parallel" and "sequential" tasks.

### Question 8

This question should have been an easy question as all it required was for candidates to state three stages that must be scheduled – apart from designing and testing a prototype - when building a bridge. However, a significant number of candidates did not answer the question well – many described stages of a system life cycle, repeated the question or gave answers that were unrelated to the topic.

### Question 9

This question was quite well answered by many candidates, who could explain, with good examples, what is meant by the global digital divide. Good answers explained that the global digital divide is the gap between developed and developing countries in access to ICT facilities, skills and opportunities. Poorer answers did not refer to the global issue or did not give examples as required by the question.

### Question 10

Most candidates could answer this question well with good descriptions of how employment opportunities could be affected by limited or no access to ICT facilities, skills or infra-structure.

### Question 11

Most candidates could answer this question well with good descriptions of how being able to access legal information online would be a benefit in some cases but not in others, and the drawbacks of having access to legal information online. Good answers referred to the benefits of access to legal information from e.g. home with no need to book an appointment with lawyer reducing e.g. travel costs; access to changes in regulations and laws/updated regulations and laws and the availability of online consultations with lawyers to get personalised advice and could explain the drawbacks such as not understanding the legal advice or having unqualified people use the advice and misleading others.

### Question 12

Most candidates could answer this question well with good descriptions of how access to health services could be affected by limited or no access to ICT facilities, skills or infra-structure. However, many candidates gave generic answers referring to the advantages or disadvantages of using the internet.

### Question 13

While most candidates could identify four sensors and describe their use in monitoring weather conditions, many gave sensors that were inappropriate for weather monitoring. Good answers included temperature, pressure, light and sensors used for measuring wind speeds and rainfall.

### Question 14

This question was about how the data from sensors could be used rather than the actual use of the sensors themselves. While many candidates could describe the use of the data e.g. heart rate displayed on a monitor for viewing by nurses or doctors, used by a computer system to produce alerts or warnings if physical variables go outside set parameters or to produce graphs for study, many candidates did not answer the question but described the monitoring of patients and the advantages or disadvantages of doing this – which was **Question 15**.

### Question 15

This question was about the benefits and drawbacks of the monitoring of patients using computers. Good answers referred to benefits such as the automatic recording of data from patient for review, the automatic chart production for analysis by medical staff, remote monitoring of patient and the continuous monitoring of many variables per patient simultaneously along with drawbacks such as the patient not get personal care, alarm may be overlooked or a power failure causing loss of data or monitoring that could affect patient safety. However, many candidates gave generic answers that described the advantages and disadvantages without relating to the use in the intensive care of patients and so did not score many marks.

# APPLIED ICT

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**Paper 9713/33**

**Written B**

## **Key Messages**

Many candidates appeared to have good subject knowledge and some excellent technical descriptions were seen. However, many candidates did not apply their knowledge to the given scenarios and to the context set in the questions and while they appeared to know the syllabus content quite well failed to score the top marks as their knowledge was not applied appropriately. It was also apparent that some candidates did not read the question carefully before attempting to answer it and seemed to look for 'key words' in the question and wrote answers based on those without applying their knowledge to the question or scenario. Candidates must read the scenarios carefully and they must apply their knowledge when answering the questions.

Some candidates did not attempt to answer all the questions and consequently lost the opportunity to score the marks. A number of candidates wrote extended or replacement answers in the white spaces on the exam paper or added extra pages to the answer booklet but made no reference or indication that they had done so; they left the Examiner to find the additional answers and risked not having them marked. While Examiners are trained to look for, and mark, additional answers, they cannot be expected to search every examination paper for a few lines of orphaned writing for every candidate; when candidates write additional or extended answers outside of the lines supplied, it is very important that candidates indicate on the main question paper that they have done so and where the Examiner can find the additional parts to their responses – a simple 'continued on..' would suffice.

When answering the questions, candidates must read the rubric and give the required number of responses where appropriate. Candidates who give too many or too few responses risk losing marks. Where a question asks for e.g. three descriptions then only the first three descriptions will be marked and subsequent descriptions will be ignored by the marker.

## **Comments on specific questions**

### **Question 1**

- (a) This question asked candidates to describe how specialist software could be used by disabled people to convert between text and speech. Good answers referred to how this was done rather than what it is e.g. the use of text to speech to 'read' documents to a user who is partially sighted, and the converse of using speech to text to create documents from the spoken word. Many candidates described text to speech or speech to text without describing how it was used. Too many candidates gave answers that referred to hardware such as a puff-suck switch which is not what the question asked for.
- (b) This question required answers other than 'conversion between speech and text' so it was disappointing to see so many candidates write about such software or methods. Good answers included sticky keys, filter keys, head pointers and other methods of entering data.

### **Question 2**

- (a) This question asked candidates to explain how the use of the internet enables disabled people to access health services. Many candidates gave good answers about the facilities and information that are available online but many gave vague, generic answers about the benefits of using the internet.
- (b) This question asked candidates to explain how the use of the internet enables disabled people to have greater job opportunities. Again, many candidates gave good answers about the facilities and

information that are available online but many gave vague, generic answers about the benefits of using the internet.

### Question 3

This question was about the features of some websites that make them hard for visually disabled people to view properly. Good answers included hard-coded font sizes, too many animations or moving objects and poor use of colour. There were, however, too many candidates who write about generic features of websites and so failed to score marks.

### Question 4

- (a) This question was about the steps taken by a customer when buying train tickets online. Marks were only awarded for the actual booking process and not for setting up accounts.

Most candidates could describe the steps and this question was well answered by most candidates with marks being awarded for inputting the departure/destination points and dates and times.

- (b) Most candidates answered this question well by including good descriptions of both the benefits and the drawbacks of buying tickets online.

### Question 5

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Most candidates could explain that SSH is preferred over Telnet because it offers more security of data transfer by using encryption.

**Question 12**

Most candidates could answer this question well with good descriptions of network protocols. FTP and HTTP were the most common protocols described.

# APPLIED ICT

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**Paper 9713/04**  
**Practical Test B**

## General comments

The majority of candidates were well prepared for this paper and Centres are to be congratulated for addressing most of the shortcomings identified in previous reports. The main issue for this session was one of evidence. With the limit of a 2.5 hr examination and necessarily small datasets, candidates must provide clear evidence of their methods and the data referenced. Correct outcomes are not enough for the award of all the marks since, although prohibitively time consuming, some correct outcomes could be determined by inspection and manual methods. Evidence of applying ICT skills to provide solutions to the problems set, forms the major part of the marking criteria. Although the tasks set in this paper for this session do not model the creation of a system, candidates working at this level should be able to determine what evidence is sufficient for others to verify solutions.

It is also worth noting that many candidates failed to recognise the importance of preparing and formatting the required printouts so that they were professional in appearance and fit for purpose.

## Comments on specific questions

### **Task 1 – String manipulation and calculation of a “digital root”**

This task required candidates to create an id code by extracting and concatenating characters and numbers from 3 fields. This is a very simple skill for candidates working at this level but a number failed to realise that they should provide evidence of the contents of the cells referenced in formulae they provided. This should have been obvious since the new Club\_id code was to be generated in a new column. Clearly the cell references in the formulae were dependent on where the new column was inserted. Many candidates failed to provide screenshots or printouts of a formula view that showed the contents of the cells referenced in the formulae.

The calculation of the digital root of the MembershipNumber was most efficiently done by using Modular arithmetic. In order to be fair to candidates without a background in mathematics, however, no extra marks were allocated for this method and a simple sum of digits even if extracted into new columns was acceptable.

Many candidates lost marks for this task by failing to recognise that they would have to repeat the extraction and sum process when the digital root was  $>9$

e.g. for MembershipNumbers 427 and 469 the digital root are calculated thus:

**427:**  $4+2+7=13$  then  $1+3=4$

**469:**  $4+6+9=19$  then  $1+9=10$  then  $1+0=1$

Many candidates also lost marks for not providing a final document that was professional in appearance and fit for purpose. The final printout was of a list of members and their new Club\_id codes. At A-Level candidates should realise they are working on simulated business tasks and the outcomes need to be fit for that purpose. The most common fault for the printouts was failing to make the column headings align with the data satisfactorily. Simple proofing and consideration of the purpose and readability of the documents need to be encouraged.

### **Task 2(a) – Add new members to a list**

Understandably, many candidates perceived this task to include a “LOOKUP” to the membership data to determine the personal details of the members in the April\_Applications file. This was an acceptable method but since the task could not be seen as part of a system that would need to be repeatable in future cycles,

there was no need for anything other than a simple cut and paste of the relevant data. Candidates who used a lookup method often failed to show all the details of the members required and provided only evidence of the formulae used. Since the data collated in this task was used for the subsequent mail merge, candidates could be expected to recognise the need to provide this evidence.

### **Task 2(b) – A mail merge using a template document**

This task was done well by the majority of candidates and Centres have clearly addressed previous issues very successfully. Candidates provided a number of valid solutions to the selection of recipients and the required text inclusions via conditional fields. A variety of methods were quite acceptable provided evidence of the source data and the method of selection was clear. Many candidates who used an added criterion such as “Accepted” or “Yes” failed to show these criteria in the source data.

The merge should have resulted in 5 letters; 3 to successful applicants and 2 to those unsuccessful. Many candidates produced the correct 5 letters, but errors caused in the merge document were not allowed marks as a follow through. As in previous sessions many candidates failed to proof read the documents. Centres might find it important to stress this issue.

### **Task 3(a) – Insert identity codes in a membership list**

In this task candidates were required to add the newly generated XLClub Club\_ids to the full MembershipList file in a new column. This entailed using a lookup method to obtain the Club\_id from the XLClub list. The most efficient method was to use INDEX and MATCH formulae. In order to use the simpler VLOOKUP function the columns in the NewXLClub file needed to be re-ordered. This was an acceptable solution but candidates had to provide evidence of the changes made or the marks for the range and index components of the formula could not be awarded since the cell references could not be verified.

Since there were only 40 members of the XLClub the lookup would fail for all the others resulting in the #NA error. In order to satisfy the requirement that a blank cell be displayed for members not in the XLClub, candidates resorted to a variety of methods. The most efficient was to employ the IFERROR or ISNA functions, but other than manual deletion, other methods were acceptable. Probably the simplest was to use the Find and Replace menu option but candidates had to show clear evidence of whatever method they chose.

### **Task 3(b) – Create a macro to select data and format a list**

The macro was quite straightforward and almost all candidates created macros with the correct steps and used correct commenting. In this session very few candidates copied the macro into a word processing application and added the comments as text or review markup. Centres have clearly addressed this issue successfully.

### **In conclusion**

For this session, the main issues for Centres to bear in mind seem to be:

- the provision of evidence for the contents of cells referenced in formulae
- the provision of evidence of source data and selection methods for mail merge
- the proofing of documents to ensure they are fit for purpose and professional in appearance.