

# APPLIED ICT

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 though 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, as 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 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 6(a) where a minority of candidates answered for job sharing rather than part-time working.

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 7 where some candidates listed features of the medium without making comparisons as required. With question 9 a number of candidates gave answers from the point of view of the worker or the manager rather than the company. In question 4(b) many wrote about unemployment which the scenario indicated was a situation the company wished to avoid. Questions 11(b) and 11(c) were also, at times, not read carefully and candidates resorted to reproducing past mark scheme answers related to the advantages and disadvantages of online shopping.

## Comments on specific questions

### Question 1

Candidates did very well on this question. The small minority who did not achieve full marks seemed to know more about observation than interviews and questionnaires and more on questionnaires than interviews.

## Question 2

The majority of candidates gained all four marks for this question. Of those candidates who did not achieve full marks, they failed to tick option 5, with roughly half of these opting for option 4 and the remainder opting for option 8.

## Question 3

This question was reasonably well answered with the more able candidates performing well, particularly part (b).

- (a) Generally, candidates were able to gain at least one mark but many tended to rephrase the question, e.g. Terminator ends the program and data flow arrow shows the flow of data.

Very few candidates mentioned output for 'Store' though many answered well for 'Process box'.

- (b) Most candidates gained at least one mark for this question with the more able candidates achieving two or more marks. Many candidates made subjective comments like 'to make things easier', rather than identifying how the Data Flow diagram would help the systems analyst. Popular correct answers referred to input and output and the hardware and software.

## Question 4

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

- (a) This was answered better than question 3, although batch processing was given as an answer by some candidates. Most gave continuous for 'Refrigeration' but some managed to mix up discrete and continuous. Many candidates gained three marks. This question was well answered by candidates who correctly identified the correct type of processing for each example and then followed on with good descriptions.

- (b) This part was not well answered, with many candidates failing to expand their answers. Popular correct answers related to initial expenditure on equipment and the cost of training the workers. Some candidates did not read the scenario which clearly stated that the company wished to employ the same number of workers yet they wrote about unemployment.

## Question 5

This question was, rather disappointingly, not answered well, with candidates struggling to make valid points given the context of the question. This appeared to be an area of the syllabus with which most candidates seemed to be unfamiliar. Many candidates appeared to understand the requirements of the question but in attempting to give reasons why this choice had been made, proceeded to invent reasons such as a dot matrix printer being faster to print or a dot matrix printer having better quality printouts than a laser printer.

## Question 6

This question was answered better than the preceding three questions. The majority of candidates did better on parts (a) and (c) compared with part (b).

- (a) Most candidates seemed to know what part-time working was but often failed to expand their answer in order to gain both marks. A number of candidates confused part-time working with job sharing.
- (b) Many candidates identified that one benefit was more free time – but many did not identify another benefit.
- (c) Many candidates identified that one drawback was lower wages – few correctly identified another drawback.

### Question 7

Candidates did not perform as well on this question as expected although part (a) produced better results than part (b)

- (a) Many candidates identified features of posters but failed to state reasons why the company would use them rather than flyers.
- (b) Many candidates identified features of flyers but failed to state reasons why the company would use them rather than posters.

### Question 8

Again, this was not well answered. The question was set out in simpler terms than in past questions on this topic. Many candidates described at least one input – but many did not describe the outputs. Candidates tended to start well by mentioning current temperature, but then added in unrequired information that had clearly been rote learnt relating to the microprocessor. Answers to the second part were often simplistic such as the output was heat.

### Question 9

Overall, this question was answered reasonably well compared to earlier questions with the majority of candidates doing much better on part (b) than part (a).

- (a) Candidates did not do as well on this part with less than half the candidates gaining one mark and few getting two or more. Many candidates gave answers from the point of view of a worker and not the manager. Many other candidates gave reasons from Joanna's perspective, why she should work in the office – but the question required reasons from the company's perspective. A minority ignored the question and wrote about distractions.
- (b) Candidates did a lot better on this question with very many candidates making at least one good point.

### Question 10

Generally candidates did much better on this question than on earlier questions. Most made at least two good points. A small minority of candidates thought it was sufficient to provide a list of a number of hardware devices without giving their use.

### Question 11

With the exception of the first two questions this was the question where candidates achieved the best marks. The majority of candidates did better on part (a) than they did with parts (b) and (c).

- (a) This was well answered although some candidates described steps which related to the payment process which was not required as the question stated 'before she pays for it'.
- (b) The question asked for circumstances where customers have to use online shopping. Many candidates correctly described two circumstances. However, to mention that a customer is disabled is not enough unless it is stated in what way their disability would prevent them from shopping in a store such as limited mobility in their legs.
- (c) The question asked for reasons why customers may be unable to use online shopping. Many candidates correctly described two reasons. However, to mention that a customer is disabled is not enough unless it is stated in what way their disability would prevent them using online shopping such as limited hand movement or sight problems.

### Question 12

Generally candidates did not do as well as expected on this question. Part **(b)**, in particular, tended to be quite poorly answered.

- (a) This was not well answered. Many candidates described features and functions of different software packages which were not relevant.
- (b) As stated above, this was poorly answered. Many candidates gave vague descriptions of the faxing process but failed to correctly describe the process of how the data is sent to the satellite and from the satellite to the receiver in China.

# APPLIED ICT

Paper 9713/12

Written A

## Key Messages

Overall, candidates appeared to have been fairly well prepared for this assessment. Candidates showed a reasonable level of understanding though there are still areas of the syllabus which appear to be left untouched by many candidates.

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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 6(a) where a minority of candidates answered for job sharing rather than part-time working.

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 7 where some candidates listed features of the medium without making comparisons as required. With question 9 a number of candidates gave answers from the point of view of the worker or the manager rather than the company. In question 4(b) many wrote about unemployment which the scenario indicated was a situation the company wished to avoid. Questions 11(b) and 11(c) were also, at times, not read carefully and candidates resorted to reproducing past mark scheme answers related to the advantages and disadvantages of online shopping.

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Candidates did very well on this question. The small minority who did not achieve full marks seemed to know more about observation than interviews and questionnaires and more on questionnaires than interviews.

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The majority of candidates gained all four marks for this question. Of those candidates who did not achieve full marks, they failed to tick option 5, with roughly half of these opting for option 4 and the remainder opting for option 8.

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This question was reasonably well answered with the more able candidates performing well, particularly part (b).

- (a) Generally, candidates were able to gain at least one mark but many tended to rephrase the question, e.g. Terminator ends the program and data flow arrow shows the flow of data.

Very few candidates mentioned output for 'Store' though many answered well for 'Process box'.

- (b) Most candidates gained at least one mark for this question with the more able candidates achieving two or more marks. Many candidates made subjective comments like 'to make things easier', rather than identifying how the Data Flow diagram would help the systems analyst. Popular correct answers referred to input and output and the hardware and software.

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- (b) This part was not well answered, with many candidates failing to expand their answers. Popular correct answers related to initial expenditure on equipment and the cost of training the workers. Some candidates did not read the scenario which clearly stated that the company wished to employ the same number of workers yet they wrote about unemployment.

## Question 5

This question was, rather disappointingly, not answered well, with candidates struggling to make valid points given the context of the question. This appeared to be an area of the syllabus with which most candidates seemed to be unfamiliar. Many candidates appeared to understand the requirements of the question but in attempting to give reasons why this choice had been made, proceeded to invent reasons such as a dot matrix printer being faster to print or a dot matrix printer having better quality printouts than a laser printer.

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- (a) Candidates did not do as well on this part with less than half the candidates gaining one mark and few getting two or more. Many candidates gave answers from the point of view of a worker and not the manager. Many other candidates gave reasons from Joanna's perspective, why she should work in the office – but the question required reasons from the company's perspective. A minority ignored the question and wrote about distractions.
- (b) Candidates did a lot better on this question with very many candidates making at least one good point.

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Generally candidates did not do as well as expected on this question. Part **(b)**, in particular, tended to be quite poorly answered.

- (a) This was not well answered. Many candidates described features and functions of different software packages which were not relevant.
- (b) As stated above, this was poorly answered. Many candidates gave vague descriptions of the faxing process but failed to correctly describe the process of how the data is sent to the satellite and from the satellite to the receiver in China.



# APPLIED ICT

Paper 9713/13

Written A

## Key Messages

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

Candidates showed a good level of understanding though 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. 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. This was particularly the case with question **4(b)**.

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. This was particularly the case with question **8(b)** where candidates were asked to refer back to the scenario but few did.

## 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.

Topics which seem to need reinforcing are verification and validation, test plans and time management.

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.

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 **3** where many candidates listed the contents of a database table rather than the contents of a test plan. Question **11(b)** required the mention of a health problem as well as a description of how to minimise it. Many candidates did not include this in some of their answers. Question **11(c)** referred to the processing of a call by the automated system and not the actions of the customer which many candidates wrote about.

## Comments on specific questions

### **Question 1**

Candidates did very well on this question. The small minority who did not gain full marks seemed to know more about parallel running than direct changeover and pilot running and more on direct changeover than pilot running.

## Question 2

The majority of candidates gained all four marks for this question. Of those candidates that did not, significantly more candidates did not tick option 5 compared to the other three options. A significant number of candidates mistakenly chose option 4.

## Question 3

This question was not well answered with only the more able candidates achieving more than two marks. There were some excellent answers, however, from these more able candidates.

Most candidates ignored the need for a test plan and listed field names and field contents such as name, address and total owing.

## Question 4

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

- (a)** This was much better answered than question 3 although a number of candidates did not accurately name the type of transaction. Most candidates appeared to understand what was required and provided good answers.
- (b)** This part was not well answered, with many candidates failing to expand their answers. Most candidates did not make comparisons between each medium and tended to list very vague descriptions of them.

## Question 5

This question was quite well answered with most candidates gaining marks and the most able doing very well. On the whole, candidates performed better on part **(a)** than on part **(b)** and yet, a significant number of candidates did not attempt part **(a)** but went on to attempt part **(b)**.

- (a)** Many candidates seemed to be able to include in their description sufficient detail to gain at least two marks. Most candidates seemed to understand the concept of a primary key and the concept of tables.
- (b)** This part of the question polarised the candidates into those who could provide good reasons, thereby gaining at least two marks and those that could adequately explain the reasons and tended to achieve no marks. This latter group tended to expand on their answer to part **(a)** without giving reasons why a relational database would be chosen.

## Question 6

In general, this question was poorly answered. Most candidates did not seem to know anything about verification.

Only the most able candidates gained any marks. Candidates did slightly better on part **(b)** compared with part **(a)**

- (a)** Very few candidates seemed to know what verification was. Many gave descriptions of validation and many others seemed to just create answers from their imagination. A significant number of candidates did not attempt this part of the question.
- (b)** Many candidates did not seem to understand validation or only had a basic grasp of the concept. Many made vague statements that validation is to make sure that data is valid or to make sure there are no errors. Again, because a number of candidates confused validation with verification they were unable to make a coherent description.

### Question 7

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

- (a) The vast majority of candidates were able to give at least two good descriptions. The incorrect answers were spread evenly amongst each of the end effectors.
- (b) Again the vast majority of candidates were able to give at least two good reasons, though fewer of the more able candidates were able to gain full marks.

### Question 8

Candidates performed quite well on this question but did a lot better on part (a) than on part (b).

- (a) The majority of candidates were able to give at least two good descriptions of types of advertising with examples. The incomplete answers were usually because the examples were inaccurately given.
- (b) Only the more able candidates achieved reasonably well on this question. Most candidates appeared to know the features but did not describe them with specific reference to the scenario.

### Question 9

Overall, this question was not answered well compared to earlier questions. Many seemed to be able to either list the tasks with no description or give part of a description.

### Question 10

Candidates, generally, performed fairly well on this question however, part (a) produced some good responses and was answered better than part (b) which in turn was better answered than part (c) which produced some weak answers.

- (a) Many candidates made at least one good point with the most able usually achieving both marks.
- (b) Candidates did not do as well as part (a) with most making just one valid point. Most descriptions lacked sufficient detail. A number of candidates seemed to think they would get paid less.
- (c) Many answers were quite vague. Some candidates thought that the company would be paying them more as they would be working more hours in a day.

### Question 11

Candidates did quite well on this question. The majority of candidates did better on part (b) than they did with part (a) which, in turn, produced better responses than part (c).

- (a) The majority of candidates made at least one good point with the most able making at least two or three good points. Occasionally candidates have health issues rather than safety and some mixed up the two including both types of answer in their response. A surprising number omitted CO<sup>2</sup> when mentioning fire extinguisher or made a comment about not having trailing wires without saying how this would be achieved.
- (b) This question was answered well with the majority of candidates making at least two good points. Those candidates who did not do so well usually forgot to include the health problem they were referring to.
- (c) This was not as well answered as the other two parts. A number of candidates wrote from the point of view of the customer giving answers referring to dialling the number, pressing buttons on the phone and telling the operator their problem. Many ignored the reference to the requirement that candidates describe the actual processing of the call.

# APPLIED ICT

Paper 9713/02  
Practical Test A

## Key Messages

The majority of candidates attempted and completed all 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. Candidate errors were more prevalent in the test table. A significant number of candidates omitted this section.

A small number of candidates failed to 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.

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. Crossed out work should be separated from work to be marked. These materials should not be mixed up.

The word processing tasks gave few problems for candidates. While many demonstrated sound practical skills in the test tables, some candidates did not work out how many of each type of test to apply when testing the date field. A significant number of candidates did not include extreme data in their testing.

A significant number of candidates did not refine the first report into the second report, electing to generate a new query and report rather than editing their existing extract.

Overall the paper performed well. A significant number of candidates appeared to have been better prepared for this examination than in previous sessions.

## 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**

Although almost all candidates imported the data files into the database in step 3, not all of them planned the design of their tables, field names, relationships and data types. Many candidates did not change the names of the 4 tables from the original source files, nor did they give the fields meaningful names which followed the naming conventions set in the paper. Selection of data types also caused some issues for some candidates, with many opting for Numeric field types for the Students.Telephone and Halls.Zip\_Code fields. As neither of these fields could possibly be used for a calculation they should have been set with alphanumeric data types. Prior to selecting these data types, examination of this data gave candidates clues to what was needed to create the various table elements required for this paper. It would appear that a number of candidates omitted or rushed through this examination. A number of candidates set a key field on the Students table but did not identify key fields in the other tables.

### **Question 3**

This question was completed well by most candidates.

#### Question 4

Many candidates completed this task as specified, those without key fields on every table frequently found that they could not create the one-to-many relationships required. Candidates who had not studied the original data files in sufficient depth found this step challenging, in many cases attempting to create a link between unrelated fields from the tables. The evidence document frequently showed the join types, although some candidates did submit the relationship diagram as evidence without the type of relationship visible.

#### Question 5

Most candidates set the validation rule to trap out erroneous data, although a number of typographical errors were found. The validation text was frequently well constructed, using an appropriate error message which included a list of the valid data.

#### Question 6

Most candidates set the validation rule to trap out erroneous data, although a number of different solutions and attempted solutions were seen. The most common syntax errors involved <31/08/1993 rather than <=31/08/1993 or <01/09/1993. Candidates who had set the data type for this field as text in question 2 were unable to create an effective rule. The validation text was frequently well constructed, using an appropriate error message which included the date limit of the valid data.

#### Question 7

This question was completed well by most candidates although some 'over-cropped' their screenshots and as a result did not provide evidence to show on which field the validation rule had been set.

#### Question 8

Almost all candidates successfully saved and printed their evidence documents.

#### Question 9

This question was completed well by most candidates.

#### Question 10

The vast majority of candidates successfully completed the A4 and landscape orientation, whilst most candidates also set all 4 page margins to 3 centimetres.

#### Question 11

Most candidates added the filename to the left side in the header; however, considerably fewer candidates' also included the full automated file path.

#### Question 12

The correct candidate details were almost always on the page, yet some candidates did not place these on the right in the footer, as specified in the question paper.

#### Question 13

There were a significant number of errors in the candidate responses to this question, with a significant number of candidates left aligning their text or setting it in a sans-serif font rather than a serif font. Almost all candidates set the font size as specified. A small number of typographical errors were seen.

#### Question 14

Most candidates created the table structure as specified, although some candidates did not merge all of the required cells. Text entry was generally accurate although the formatting of the Students.Student\_Type was often not formatted in an italicised font as shown in the question paper.

### Question 15

Most candidates tested their validation rule for the Students.Student\_Type field. The table structure was given to help them to realise that 4 elements of normal data must be tested and one element of abnormal data was required for this task. Despite this, many candidates did not select appropriate test data. Some candidates did not perform the tests on their rules, leading to what would appear to be correct results shown in the actual output column which did not meet the rule that they had entered. Few candidates identified the correct test type which involved applying their theoretical knowledge to this practical question.

### Question 16

The structure of the table was not given to the candidates in this question so greater test planning was required in order to attain high marks. Most candidates copied the structure of the test table given in question 15 and tried to make their testing fit within that table. Excellent responses from candidates usually involved 2 or more choices of normal data, the same for abnormal data and a single element of extreme data as the data entry had only one element of extreme data. Again, some candidates did not perform the tests on their own rules, leading to what would appear to be correct results shown in the actual output column which did not meet the rule that they had entered. More candidates scored the mark for the test type than those attempting it in question 15, although range check was the most commonly seen of the acceptable answers.

### Question 17

This question was completed well by almost all candidates.

### Question 18

A significant number of candidates created an appropriate query to find the 4 specified halls of residence. Fewer candidates selected all of the correct fields for this report; the telephone number was frequently seen in this report. Many candidates correctly grouped this report by the hall of residence, although far fewer placed all the 4 address fields (including the zip code) into the group header. Adding a suitable title for the report was attempted with mixed results, although almost all candidates did include their candidate details in either the report or page header. Most candidates printed this report as a single page wide, those who elected for landscape orientation frequently ensured that all data was fully visible, whilst those candidates who elected to use portrait did less well in this area.

### Question 19

Few candidates achieved all the marks for this question. Many selected an appropriate title which was derived from that used in the previous question and included their name. Much of the data presented was fully visible. This question was a direct follow on from question 18 although few candidates refined their query and report from this question. The question indicated that candidates 'refine the report' and to gain full marks this had to be taken into account.

### Question 20

A wide variety of correct responses was seen to this question. There were different cross-tab queries used which was the most efficient method of solution but some candidates selecting this route did not remove the students living outside the halls of residence or the row and/or column totals for each hall and/or faculty. Some candidates selected a linear rather than tabular solution which also gained some candidates full marks.



# APPLIED ICT

Paper 9713/31

Written B

## Key Messages

Centres are reminded to impress upon candidates that they must read the question carefully before attempting to answer it. It was apparent that candidates were not answering the question as set on the question paper but merely writing down the information that they knew about a topic. Candidates must read the scenarios and questions carefully and when answering the questions they must apply their knowledge. Many candidates appeared to know the syllabus content but many did not apply their knowledge to the given scenarios and to the context set in the questions. Consequently, their responses did not answer the question as set and did not score marks.

However, it was also apparent from the many superficial answers seen by examiners that too many candidates did not know the syllabus content at all well.

Although there were fewer instances than last year, a number of candidates did not attempt to answer all of the questions and so lost the opportunity to score marks.

## General Comments

It is disappointing to note that, once again and as reported upon last year, a number of candidates wrote their responses outside of the designated spaces for the questions and did not indicate that they had done so. Centres are reminded to advise their candidates that this may cause problems with the on-screen marking of their papers. Centres are again strongly reminded to advise their candidates that any answers written outside of the designated spaces should be clearly cross-referenced by the candidate so the examiner can easily find the answer. There were too many instances of responses written in the blank spaces and not referenced and which could have been missed by the examiners.

## Comments on Specific Questions

### Question 1

- (a) The question required candidates to describe how the facts in the knowledge base would have been collected and were expected to describe how the data was collected and gathered. While many candidates were able to describe the collection of information from experts and from existing resources, few mentioned the use of satellites with e.g. thermal infra-red sensors for gathering data. Further, too many candidates failed to read the question correctly and described how the expert system would be used rather than how the information was gathered.
- (b) The question required candidates to give examples of the data that would be input into the expert system. Most candidates could answer this question and good answers included references to the type of soil and its composition and details of any ores found in the area. References to Fergal's user Id and password were not given credit as these do not answer the question.

### Question 2

Many candidates gave generic responses to this question with answers listing the advantages and disadvantages of expert systems without any mention of the inspectors or of mineral prospecting. Such answers did not score many marks as they did not answer the question adequately. Candidates were required to apply their knowledge of expert systems to the use for mineral prospecting and good answers referred to the production of the results in less time and with fewer errors when an inspector is using an expert system than when not; the expert system contains the knowledge of many experts so there is no need



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# APPLIED ICT

Paper 9713/32

Written B

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However, it was also apparent from the many superficial answers seen by examiners that too many candidates did not know the syllabus content at all well.

Although there were fewer instances than last year, a number of candidates did not attempt to answer all of the questions and so lost the opportunity to score marks.

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- (a) The question required candidates to describe how the facts in the knowledge base would have been collected and were expected to describe how the data was collected and gathered. While many candidates were able to describe the collection of information from experts and from existing resources, few mentioned the use of satellites with e.g. thermal infra-red sensors for gathering data. Further, too many candidates failed to read the question correctly and described how the expert system would be used rather than how the information was gathered.
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# APPLIED ICT

Paper 9713/33

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# APPLIED ICT

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

## General comments

As in previous November sessions, some candidates seemed a little unprepared for the paper or perhaps too reliant upon familiarity with tasks set in previous papers. It must be born in mind that this paper is of a problem solving nature and as the title of the specification suggests, tests the application of ICT skills. As such, it is very unlikely that Centres will be able to rely on teaching solutions to previous tasks without emphasis on problem solving skills. Most of the tasks set in every session have more than one acceptable solution to achieve the required outcome. There are often some marks for efficiency but usually the main criterion for an acceptable solution is repeatability. This means there is a requirement for the solution to be able to cope with changes to data without manual re-entry.

## Comments on specific questions

### **Task 1**

#### **(a) – Select data for tables in a relational database**

In the first task candidates were required to import data into 3 tables and create a relational database. There was a clear instruction to normalise the database. Almost no candidates achieved this. It was a particularly simple example of normalisation in that only the Faculty field provided any redundancy of data and needed to be included in a single table.

Once again, candidates from some Centres provided screenshots of the import steps and the design view of each table. This was not required and may have cost some candidates marks by reducing the time they had available to complete the paper. For this task, provided the tables and relationships could be seen, the marks could be achieved from the simple relationship view shown in the evidence for task 3.

#### **(b) – Identify candidates not assigned to a class**

In the first part of this task, candidates were required to determine which of the candidates listed in the Student\_Details file were not listed in the CIT\_Class\_Lists file. Many candidates used a Lookup function in a spreadsheet view of the data and looked for the #NA result. This was an acceptable solution if not an efficient one. Those candidates who used this method often failed to provide evidence of assigning the identified candidates with the required Class\_Code. The simplest and repeatable solution was to design a database query to find unmatched data.

#### **(c) – Prepare a report based on a parameter query**

For this task, candidates had to create a report where users were able to enter the Class\_Code and display members of the required class grouped by Lead\_Tutor and the Gender of the candidate.

In general, this was done well by many candidates with marks only lost for insufficiently clear text for the parameter prompt and incorrect report headers and footers. In the latter case, some candidates seemed unaware of the difference between a page footer and a report footer.

### **Task 2**

#### **(a) – Calculate results as a percentage**

Many candidates misunderstood this task and produced a variety of submissions that did not match the layout of the file provided. The task was, in essence, very simple and only required the division of the marks

shown in each cell by the total marks for each module shown in the bottom row of the table. A more efficient solution was available for those candidates who realised that the use of absolute referencing could enable the formula to be replicated. For example B3/B\$18 would enable valid replication both down the column and across each row.

### **(b) – Display results as a Grade**

For the grades, of those candidates who completed this part of the task successfully, it was very pleasing to note a variety of valid solutions including the use of the TRUE condition in a lookup to a new grade table and indeed the use of array formulae. A simple nested IF solution was sufficient however.

For the totals a simple COUNTIF formula was all that was required but efficient solutions once again showed the use of absolute referencing to enable replication.

### **Task 3 – Add the results table to the database created in task 1(a)**

This straightforward task was designed to provide evidence of the structure of the database created in task 1(a) and the data for the mail merge in task 4(a). In general it was well done by all candidates apart from the normalisation.

### **Task 4**

#### **(a) – A mail merge with conditional data and text.**

Traditionally candidates are well prepared for mail merge tasks, but once again the importance of “proofing” the resulting output must be stressed. The task is described as a business scenario. As such the resulting letters must be fit for purpose in that layout, spacing, formatting and punctuation is important.

Worth particular note is the failure of many, if not most candidates to insert the date correctly. The question paper specifically instructed candidates to print a copy of the merge document showing all the field codes. This, of course, included the date shown as a field. The template document specified the format of the date as

DD : MMMM : YYYY format. As specified, both the spacing and the use of the correct separator were important.

The main challenge of this task may have been solving the logic in the conditional inclusions. Those candidates using a word processing application that allows nesting are at a small advantage in that the logic is simpler, but for those applications where nesting of conditions is not possible, valid alternative outcomes were acceptable.

For example, the following solution would match the conditions as described in the question paper and would only display the number of fail grades if there were any recorded.

```
{ IF {MERGEFIELD Fail } >0 “Fail grades recorded = { MERGEFIELD Fail }, Please contact your Lead Tutor”  
“Congratulations on completion of the course.” }
```

Where nesting is not possible, the next solution would always display the number of fail grades, even if zero; however the wording of the question paper does not preclude this as an acceptable solution.

```
Fail grades recorded = {Mergefield Fail}. { IF { MERGEFIELD Fail } >0 “Please contact your Lead Tutor”  
“Congratulations on completion of the course.” }
```

For the selection of the recipients, ideally a “SKIPIF” rule should be included in the merge document, but evidence of a recipient list filter rule is acceptable. Manual selection of the recipients from the list is not acceptable however.

#### **(b) – A macro to format the letters and insert a header**

Most candidates who created the merge document attempted this task successfully and it was pleasing to see a larger number annotate the code using the correct commenting syntax. Centres have obviously addressed this issue to overcome the shortcomings of previous candidates. Perhaps the only thing that

might advantage candidates further is to refine attempts at recording macros so that the code is as concise as possible and the keystrokes and mouse clicks of missteps and mistakes are not included.

### **In conclusion**

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

- the importance of efficient solutions and in particular the use of absolute referencing for replication of formulae
- the importance of providing context for users – particularly with respect to prompts in parameter queries
- the logic of conditional mergefields
- the need to “proof” printouts to ensure layout, spacing, formatting and punctuation is fit for purpose.