OCR
RECOGNISING ACHIEVEMENT

GCSE

Applied ICT

GCSE 1494

Report on the Units

June 2006

1494/MS/R/06

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The mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by Examiners. It does not indicate the details of the discussions which took place at an Examiners' meeting before marking commenced.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

The reports on the Examinations provide information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the syllabus content, of the operation of the scheme of assessment and of the application of assessment criteria.

Mark schemes and Reports should be read in conjunction with the published question papers.

OCR will not enter into any discussion or correspondence in connection with this mark scheme or report.

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REPORTS ON THE UNITS

Chief Examiners Report

It was pleasing to see an improvement in the performance of candidates in both the external examination and the coursework components.

Principal Examiners Report

4872: ICT Knowledge and Understanding (Written Examination)

1. General Comments

The wide spread of marks indicated that the paper was sat by candidates of all abilities, although the majority were in the middle range. There was less evidence this session than previously that candidates from particular Centres had been disadvantaged by not being taught particular topics. However, there were a minority of Centres where all candidates were unable to identify input devices, output devices and backing storage devices, or who did not know the features of a CAD package, or who failed to demonstrate any understanding of absolute cell references.

Centres are advised that GCSE candidates are expected, even at the lower grades, to use technical terms with reasonable accuracy. The British Computer Society Glossary of ICT and Computing Terms should be used as a reference in any cases of doubt.

Some papers were difficult to mark because of illegible handwriting or frequent use of abbreviations more appropriate to sending text messages from mobile phones. Candidates should be advised that whilst examiners will make every effort to understand their responses, if they cannot be clearly read or understood they will be given zero marks. Many candidates would have benefited from proof reading their answers, as some did not make sense or said the exact opposite of the given answer, suggesting words had been missed out.

As in previous sessions, it is recommended that candidates be taught that one-word responses are rarely sufficient to answer questions at this level. Answers such as ‘easier’, ‘cheaper’, ‘more accurate’, ‘more efficient’ and ‘faster’ all need some expansion to explain what is being compared and what it is that is ‘easier’ etc. to do.

Candidates would benefit from being encouraged to read the questions more thoroughly, especially the scenarios set. Many questions become much more straightforward if they are answered using the context of the question.

Comments on Individual Questions

Q No)

1) (a) Whilst many candidates were able to identify storage devices many were unable to distinguish between main storage and backing storage, with the most common incorrect answer being 'RAM'. Many others were unable to distinguish between backing storage and backup, so either wrongly gave the purpose of the hard drive as backup or failed to identify the hard drive in this section. Some candidates who probably did understand the purpose of the hard drive and the DVD rewriter appeared to rush this question, giving an answer that was too vague to be given credit. The best reasons were given by candidates who referred to Kiran's needs, as defined in the question.

(b) This question was generally well answered, with a few candidates again failing to gain the mark for the purpose of the device, often because the answer was too vague, perhaps simply defining an output device in general. A minority of candidates were unable to distinguish between input and output devices. Again, the best reasons were given by candidates who referred to Kiran's needs, as defined in the question.

(c) This question was again generally well answered, although there were more instances of candidates simply giving a vague response such as 'to enter data' for the reason. Once again the best reasons were given by candidates who referred to Kiran's needs, as defined in the question. Those candidates who had given input devices for 1b often gave output or storage devices for this question.

(d) A digital camera was the most obvious additional input device that would meet Kiran's needs, and candidates who identified this often gained the full 3 marks for this question. Graphics tablet was another common answer; though candidates were often less able to explain why this would be of benefit to Kiran. Many candidates failed to gain any marks on this question, either because they simply thought of another input device, eg touch screen, without considering the work done by Kiran, or because they gave brand names or other vague descriptions of, for example, a graphics tablet, which did not use correct ICT terminology. Some candidates did not give an input device, with 'USB' a not uncommon response.

(e) The majority of candidates were able to give at least one way in which the upgraded computer would be more useful, either because it would store more files or because it would process data more quickly. A significant number were also able to identify the fact that Kiran would be able to run more programs at once. However, many confused the two types of storage and few showed an understanding of Kiran's specific needs by writing about the size of the files that she would be using.

2) (a) This question was generally well answered.

(b) Many candidates answered this question correctly, although some gave brand names or vague names such as 'publishing software', which were not awarded the mark, as they did not make correct use of ICT terminology.

(c) Many candidates were able to gain one mark in (i) for giving a vague description of a template as a file with some layout set, used as a starting point for documents. However, few went on to give any of the specific items that might be set in a template, or showed any understanding that the software would supply different templates for different purposes. Some appeared to describe writing frame templates provided by Centres for the writing up of coursework.

For part (ii) many answers simply stated that a template was 'quicker' or 'easier', without expanding these vague suggestions into a response worthy of a mark. However, there were also many good responses to this part of the question. Although many candidates also gained the mark for identifying a disadvantage, candidates frequently suggested that the layout could not be changed, or that by using templates the final product would not be the user's own work. Whilst this may be good advice to candidates creating documents for GCSE coursework it is not relevant in the context of this question. Some candidates suggested that by using a template all documents might 'look the same'. Whilst this was sometimes expanded into an acceptable answer, by considering the fact that other organisations might use the same template, it was not a correct answer on its own, as the use of templates to ensure a consistent house style across documents for an organisation is one of the more important *advantages* of templates that few candidates appreciated.

(d) Part (i) was generally well answered although a minority of candidates failed to realise that the question told them that the file was already saved, so incorrect responses such as 'might not be saved properly' or 'the computer might crash' were frequently seen. Similarly, whilst most candidates gained the mark for (ii) for suggesting a backup copy others simply suggested 'save it on …' without even implying that this would be a second copy.

(e) Some candidates demonstrated that they had been well taught about Health & Safety issues. However, there were also many very unrealistic suggestions as well as many answers that were simply too vague. Some candidates simply repeated their idea of taking regular breaks.

3) Most candidates were able to gain 3 or 4 marks for this question. The most common errors were to suggest that all goods made would be exactly the same and that factories would be expensive to run.

4) (a) Most candidates were able to gain at least one mark for this question. A number were able to recognise that the website would be used for advertising but failed to give an advantage of advertising in this way rather than by using alternatives, such as the leaflets described in earlier questions. Many candidates thought that a website would automatically provide a wider audience or suggested that this UK company would benefit from advertising worldwide.

The most common correct disadvantages were those that recognised the time and/or expertise needed to maintain the website. Many candidates gave vague and incorrect suggestions of hackers or viruses.

Cost was offered as either a disadvantage or an advantage and was not given credit. Those suggesting a website is a cheap option showed no recognition of the costs involved, whilst those suggesting that it is an expensive option failed to recognise the costs of alternatives.

(b) This question required candidates to recognise the three main features of a computer virus – that it is a program, that it copies itself and that it has an effect on the way the computer works or the files stored on it. Many candidates were able to gain 1 or 2 marks but few gave a sufficiently complete description for full marks. Many candidates gave untrue answers such as 'a virus deletes all the files on a computer' whereas a more well-considered answer such as 'viruses can have different effects, such as deleting all the files on a computer' would have gained a mark. Some candidates thought that a virus damaged the hardware of a computer system.

(c) Although there were many correct answers suggesting that the software should be updated regularly or that it should be used to check the system daily, many candidates thought that a virus should be introduced into the computer system to test the software. Others failed to read the question and simply suggested that anti-virus software should be used.

(d) Many candidates were clearly guessing this answer, although a significant number did know about the Computer Misuse Act.

(e) Many candidates gave a good definition of hacking for (i) but a number described altering files rather than simply unauthorised access to a computer system.

This question was generally well answered although a number of candidates suggested anti-virus software whilst others gave trade names.

5) (a) This question was surprisingly poorly answered. Brand names were once more frequently given, whilst many candidates suggested spreadsheet software.

(b) Most candidates gained all four marks for this question. The most frequent error was to suggest that address should be text and numeric.

6) (a) This was very well answered by almost all candidates, although not all followed the instruction to circle the feature identified, despite the example given.

(b) Many candidates showed a good understanding in (i) of what makes a presentation interactive although a number were unable to distinguish interactive from multimedia. Some wrote about hardware such as touch screens or interactive whiteboards.

Those candidates who understood the meaning of interactive were generally able to suggest an advantage and a disadvantage for (ii) although some answers were too vague to be worthy of a mark. Some failed to grasp that the focus of this part of the question was the effect on Zac's customers and suggested that a disadvantage would be the amount of time and/or effort required to create an interactive presentation.

(c) This question was answered easily by candidates who had learned that the term 'multimedia' is defined as 'the presentation of information by a computer system using graphics, animation, sound and text'. However, many failed to gain any marks, with different types of graphics and hyperlinks being common suggestions. Other candidates repeated their answer by giving answers such as 'animation' and 'video'.

The question asked candidates to consider how these different types of media might be used to enhance Zac's presentation. Many candidates gave vague suggestions that including these media might make the presentation more interesting or exciting but gave no suggestions of how they might be used. However a number of candidates gave thoughtful, specific suggestions, relevant to Zac's needs.

7) (a) The majority of candidates gained one mark here for giving a relevant property of a portable computer. However, it was disappointing to see how few candidates then related this property to Zac's needs, since this is something they should be encouraged to do in much of their portfolio work.

(b) The majority of candidates showed some understanding of what a PDA is, but many gave only vague or one-word answers, which could not be considered 'tasks' as required by the question.

(c) This question required candidates to consider the complementary qualities of the two pieces of technology and to give reasons why Zac would find it useful to have both. Many candidates simply suggested tasks that each could be used for, without any recognition that the other device might also be used for the same purpose. Some simply repeated their answers from parts a and/or b. Others suggested that the only reason would be that one would provide a backup for the other. A small number of candidates gave excellent answers that referred to the increased capabilities of the portable computer and the greater portability and convenience of the PDA, with good examples related to Zac's work.

(d) A minority of candidates demonstrated no knowledge of what CAD software is or does. Many others gave vague advantages for (i) rather than the required features. The ability to view drawings in three dimensions was the most common correct answer.

Some candidates simply repeated their answers in (i) for (ii) but others showed a good understanding of the flexibility of CAD drawings against the realism and instant nature of photographs.

(e) Most candidates made a good attempt at this question, with a full range of marks gained. Some answers were over-vague, whilst a number of candidates, presumably after practising with previous papers, gave disadvantages as well as advantages, which were not required by this question. Some candidates gave thoughtful and realistic comparisons but others did not think through their answers, with suggestions that phone calls can be made at any time, or that a phone call will get through to the person instantly being common.

8) (a) Most candidates were able to correctly identify a cell containing text and a cell that had been formatted as currency. Fewer recognised a cell that had been formatted as a number to 1 decimal place, whilst a surprisingly large number of candidates failed to gain the mark for identifying a cell that had been formatted to wrap text. A small number of candidates gave cell references in an incorrect format, eg '1A', despite the cell references shown in Fig.4 and in the example.

(b) Most candidates correctly identified B7 as the cell to be changed and at least one of D7 and F7 as a cell that would automatically change as a result. However, many incorrectly identified E7 for (ii). A significant minority of candidates failed to identify specific cells, giving headings such as 'total sales' and 'total pay'.

(c) It was pleasing to see the number of candidates who clearly looked at the formula in cells E7 to Ell and correctly identified the importance of total sales and £25000. However, only a small number of candidates correctly interpreted the '>=' operator. A significant number of candidates simply guessed, or wrote from their general knowledge. These answers were not given credit.

(d) This question allowed a small number of candidates to demonstrate a secure understanding of absolute cell referencing, whilst many gained 1 or 2 of the available marks for showing some knowledge, but often thinking that the formula rather than the cell reference would not change when the formula was copied. The majority of candidates did not understand this concept, mostly suggesting that the $ sign indicated that the cell content was an amount of money.

Principal Moderators Report

General

Addition and transfer of marks remains a problem for some Centres whilst others do not complete the teacher comment section or reference the pages on which candidates have achieved criteria. Completing the Unit Recording Sheet is an important obligation on Centres. Teacher comments and cross referencing against particular pages in the portfolio help moderators see why a particular mark has been awarded enabling them more easily to support teacher assessment and avoid the need for adjustment of marks.

Centres should ensure that enough pressure is used when entering marks on the top copy of MS1 forms and check that their marks are legible on the copy sent to their moderator. Some are indecipherable leading to a delay in the moderation process.

Centres must complete a Centre Authentication Form (CCS160) for each unit. Failure to do so could delay the release of results.

A small number of Centres allowed candidates to include extraneous material which did not address the assessment criteria. Worksheets and practice materials should not be included within portfolios as they cannot be credited as the candidates unaided work.

A few Centres continue to rely too heavily on proprietary schemes for assessment purposes. In the hands of a competent teacher such schemes are a useful tool to deliver the required skills and understanding. If used for assessment they provide too much information and can lead to malpractice.

Some Centres encourage the use of writing frames to help weaker candidates structure their work. Centres should be aware that the limited answers entered into these frames or tables rarely lead to descriptions or explanations sufficient to earn middle or high band marks.

Loose papers in pocket wallets or plastic pockets are difficult for moderators to handle and are not an appropriate way to present portfolios for moderation. Work for moderation should be hole punched and treasury tagged.

Anecdotal evidence suggests that some Centres are delivering this course in less than the recommended minimum of four hours per week. Whilst it may be possible to teach the theory elements in less time, candidates will not master the use of application software sufficiently to give access the higher mark levels and are unlikely to match attainment in other single award GCSE courses.

A minority of Centres do not perform any kind of internal standardisation. This has led to some samples being returned to Centres for re-marking.

A large number of Centre marks have been scaled in this session. Centres are either misinterpreting the grading criteria or applying them too leniently. Strand c in unit 4873 provides a good example. The exemplification for middle band marks states,

> *"The documents produced by candidates might include business reports, newsletters and more extensive presentations."*

Some Centres choose to ignore this and award marks in the middle and higher band where candidates have produced, for example, single sheet flyers and business cards which do not meet the criteria. A number of the strands in both units have minimum criteria which must be met before marks can be awarded.

OCR run training courses across the country and many teachers would benefit from a more complete understanding of the requirements of the specification to be gained through attendance at one of these courses.

4873 Business Systems Portfolio

Candidates studied a wide range of organisations, many through case studies. In most Centres candidates produced systems using database software. These gave plenty of scope to achieve marks across the range.

Strand a
There is a minimum requirement for one mark to give at least one use of ICT by each of two organisations, along with the information requirements and the hardware and application software for at least one system. Some Centres awarded middle or higher band marks where candidates made very brief comments meriting no more than four marks. For middle band marks candidates must describe organisations' uses of ICT, and the information requirements, hardware and application software for most major systems within each organisation. At the highest level they will provide cogent explanations for why the organisations use ICT to meet their needs.

Strand b
A minority of Centres awarded marks in this strand where candidates had not fulfilled the minimum requirement to review a total of four documents. Candidates should include copies of the documents they describe. Candidates who did well annotated details of content, layout, presentation and writing styles on the documents they had collected.

Strand c
The quality of documents produced for this strand has improved although the minimum requirement for one document using each of word processing, publication and presentation software is sometimes ignored, limiting candidates to one or two marks. Candidates should produce documents of their own rather than copy examples they have been given. Some proprietary schemes direct candidates too rigidly leaving little room for originality and initiative to reach the higher mark levels.

A flyer or business card gives candidates very little scope to show their mastery of publication software and deserves only the lowest mark. Candidates ought to produce, for example a newsletter combining text, graphics, charts, photographs etc, and making use of features such as text and graphic frames, columns, headers or footers, text wrap and text flow. Even in the lowest mark band there is a requirement for documents to be fit for purpose and audience. Documents should be spell checked and proof read and letters, for example, should use a standard font size and style.

Strand d
It was encouraging to see that most Centres were now producing data flow diagrams rather than system flow charts for this strand. Any diagrammatic representation of information flow such as system flow charts and/or descriptions of information flow may only gain up to 3 marks in the lower band.

Candidates must produce data flow diagrams not flow charts to gain middle or higher band marks. A level one data flow diagram will gain 4 marks. A more complex dfd (i.e. with more than one process) can be given 5 marks. Analysis or other description demonstrating understanding will raise this to 6 marks.

Strand e
Candidates must clearly define the user requirements of the system they will implement. Even a basic design specification should make clear what the purpose and intended output of the system will be. Precise details are the key to higher marks. Candidates need to be specific in saying what their system will do and what the desired outcomes will be.

Teachers need to ensure at an early stage that candidates develop a design for a system which they are capable of completing. If candidates start a project which is too challenging for them they may not finish and therefore lose marks for implementation.

A testing plan can be credited even if it is located in a different section of the portfolio.

Strand f

Many candidates used annotated screenshots well to show how they had implemented their system. Those scoring high marks used cropped screenshots as part of a coherent report rather than having each screen print with a few notes on a separate page. Some did not show input data or the output from their system making it impossible for someone else to re-create their system. Candidates should enter sufficient records to be able to test their system works efficiently. I would regard twenty records as the minimum needed.

Strand g

Candidates gain marks for testing their system against normal, abnormal and extreme inputs. They should also show that their system produces the required output matching the user requirements they list in strand e. They should also evaluate their system, suggesting improvements they might make. This evaluation might be found in the candidate's implementation records.

Strand h

There was some very good evidence for this strand with many fewer candidates producing general user guides to the software rather than specific guides to the system they had created. Candidates who gained the highest marks produced short 'quick start' guides which would allow a novice to start using the system quickly using a combination of instructions and cropped screen prints.

4874 ICT Survey Portfolio

The general theme of this unit is of purposeful research. A minority of Centres treated each strand as a separate entity, ignoring the banner on the assessment evidence grid and limiting the marks available to candidates.

It was pleasing to see an increase in the number of candidates analysing the results of their surveys for strands b and c.

Strand a
In this strand candidates should show how well they can use the Internet as a research tool and also produce a bibliography of sources used in carrying out their survey and in producing their report. Candidates are required to list at least two printed and two Internet sources for the award of one mark. Candidates should show that they can research available technologies, can refine those searches, mark pages for later return, and produce meaningful results which they have cross referenced for accuracy and bias.

Strand b
Some candidates carried out purposeless searches without coming to any conclusions in their survey. They showed the ability to sort, search and create reports without reference to why they were doing it. In some Centres candidates were given marks above band one where they did not use one to many relationships. A significant number set up related tables but only used fields from a single table when creating queries and reports.

Strand c
More candidates included evidence of the use of formulas and functions in their spreadsheets this session, although some still only used spreadsheets as a tool to produce charts. Charts used by candidates are not always appropriate to their purpose often giving the impression that the choice has been made for inadequate reasons.

Strand d
It was pleasing to see an increasing number of web based presentations for this strand. Many candidates produced good work in this strand using annotated screen prints to show what media they had used on each slide. Candidates created good media elements, many using sound or edited digital photographs with a few using video clips they had filmed themselves. Clip art sounds and animations do not satisfy the criteria for high band marks.

Some Centres gave high marks when candidates had used a limited range of media, or had used links to move only forward and backwards.

Strand e
In some Centres candidates wrote in general terms rather than clearly identifying groups or individuals affected by developments in ICT. Call centres or banking, for example are not specific groups although an individual call centre or banking employee or evidence of study of a particular call centre or bank are acceptable. Bulleted lists or brief sentences in a table structure are unlikely to reach the higher mark bands. The specification lists minimum requirements for each mark band.

Strand f
Many candidates identified and described advantages and disadvantages rather than benefits and needs. Whilst benefits may tie in with advantages, needs do not match disadvantages. A need is defined as satisfying a basic requirement whilst a benefit is an advantage of meeting these requirements.

Strand g
Some candidates still covered the disadvantages of using ICT rather than the consequences of limited or no access. Again this must be related to specific groups or individuals and a comprehensive review is needed at the highest level.

General Certificate of Secondary Education
Applied ICT (Double Award) 1494
June 2006 Assessment Series

Unit Threshold Marks

Unit		Maximum Mark	A*	A	B	C	D	E	F	G	U
4872	Raw	100	86	78	70	62	54	47	40	33	0
	UMS	100	90	80	70	60	50	40	30	20	0
4873	Raw	50	46	41	36	31	26	21	16	11	0
	UMS	100	90	80	70	60	50	40	30	20	0
4874	Raw	50	46	41	36	31	26	21	16	11	0
	UMS	100	90	80	70	60	50	40	30	20	0

Entry Information

Unit	Total Entry
4872	8938
4873	8528
4874	9335

Specification Aggregation Results

GRADE	A*A*	AA	BB	CC	DD	EE	FF	GG	UU
UMS	270	240	210	180	150	120	90	60	0
Cum %	0.9	5.9	19.5	41.7	60.8	74.5	86.0	95.5	100

9792 candidates were entered for aggregation this series

For a description of how UMS marks are calculated see;
www.ocr.org.uk/OCR/WebSite/docroot/understand/ums.jsp

Statistics are correct at the time of publication

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