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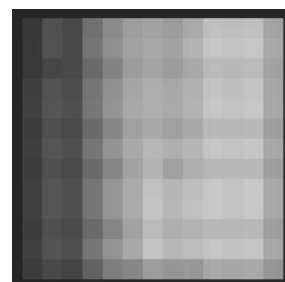
GENERAL CERTIFICATE OF SECONDARY EDUCATION

GCSE 1494

APPLIED INFORMATION & COMMUNICATION TECHNOLOGY (DOUBLE AWARD)

COMBINED MARK SCHEME AND
REPORT FOR THE UNITS
JANUARY 2005

GCSE



1494/MS/R/05J

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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 report on the Examination provides 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.

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GCSE Applied Information & Communication Technology– 1494

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RECOGNISING ACHIEVEMENT

Mark Scheme 4872
January 2005

No half marks.

No credit for named software, unless qualified.

No marks for 'quicker', 'easier', 'cheaper', 'more efficient' unless further explanation relevant to the question is given.

Each line on the mark scheme below is worth one mark unless clearly shown otherwise. Items separated by / are alternatives. Items in brackets are not compulsory for the mark.

Question		Mark
1 (a)	<ul style="list-style-type: none"> • Keyboard (1) • Mouse (1) • Scanner (1) 	3
(b)	<ul style="list-style-type: none"> • Monitor (1) • Printer (1) • Speakers (1) 	3
(c)	1 from: <ul style="list-style-type: none"> • Processor • RAM • Hard disk drive 	1
(d) (i)	1 mark each point, max 3: A copy of a file / files (1) on a different medium / specified medium other than hard disk (1) kept in a different location / secure / away from the computer (1) kept for security / in case anything happens to the original file (1)	3
(ii)	Floppy disk (drive) (1)	1
(iii)	Limitation, 1 from: <ul style="list-style-type: none"> • Small capacity / not enough room • Slow <i>NOT</i> anything to do with not being robust ii must be correct for limitation Additional device, 1 from: <ul style="list-style-type: none"> • CD writer / CD-R drive / CD-RW drive / DVDR. <i>NOT</i> just CD drive • Zip drive • Jaz drive • Memory stick / flash EPROM • DAT drive 	2

2 (a)	<p>One mark for each label: B – any or all of the telephone numbers at bottom right hand corner, or words ‘or’ or ‘mobile’ (1) C – any or all of ‘Free no-obligation quotations’ or ‘Malcolm’s Garden Designs’ (1) D - any or all of the name and telephone numbers at bottom right hand corner (1) E – any or all of Landscaping, Paving and Ponds (1)</p>	4
(b)	<p>One of:</p> <ul style="list-style-type: none"> • DTP • Word processor • Graphics package • Publication 	1
(c)	<p>One of:</p> <ul style="list-style-type: none"> • Advertisement • Leaflet • Flyer / poster • Letter (Not graphics package) • Invoice (Not graphics package) • Garden designs (graphics package only) <p>Any other suggestion that matches answer in b and is relevant to a garden design company</p>	1
3 (a)	<p>One of:</p> <ul style="list-style-type: none"> • Mouse • Tracker ball • Graphics tablet • Light pen 	1
(b)	<p>1 mark each point, max 5:</p> <ul style="list-style-type: none"> • Neater / more professional looking • Easy / quick to make amendments (1) if customer changes mind(1) • Easier / quick to correct mistakes • Easy to make copies • Easy / saves storage space to store designs • Can use old designs as basis for new ones • Can use library of designs to create particular features (1) / easy / quick to do this(1) • Easy to get accurate scale drawings / lines / shapes of particular lengths. More accurate on its own is not enough • Automatic / easy / quick shading • Automatic dimensioning • 3D views • Using CAD for ‘what if’s’ • Email designs to clients <p>There may be other acceptable expansions usually involving “because”, “so” or a comparison</p>	5
(c)	<p>1 mark each point, max 3:</p> <ul style="list-style-type: none"> • Both will produce good quality printouts • Ink jet printer cheaper to buy (not just ‘cheaper’) • Ink jet expensive to run (not just ‘more expensive’) • Ink jet printouts would smudge / run in the rain • Laser quicker to print • Laser better quality • Laser best for lots / ink jet best for few 	3

4 (a)	£90 or £90.00 or 90 Give mark for any method of correctly identifying the cell, eg drawing lines, labelling	1
(b) (i)	B4 or R4C2 or 'cell with £12.25 in'	1
(b) (ii)	D4, D9, D12, D14 or R4C4, R9C4, R12C4, R14C4 1 or 2 correct, regardless of other incorrect suggestions: 1 mark 3 or 4 correct, regardless of other incorrect suggestions: 2 marks Answer completely correct: 3 marks Give relevant marks for any method of correctly identifying the cells, eg drawing lines, labelling	3
(c)	$(=)B2*C2$ or $(=)C2*B2$ or $+C2*B2$ or $+B2*C2$ (2 marks) 1 mark if sign incorrect or if one cell incorrect Accept $=\text{sum}(B2*C2)$ since it would work if typed in. $D2=B2*C2$ (1 mark) $\text{Sum}=(B2*C2)$ (1 mark)	2
(d)	2 marks for a complete description of highlighting and filling down or of dragging down the bottom right hand corner 1 mark for an incomplete description. Give BoD (1) if description not completely correct but candidate shows an understanding that there is an automatic way.	2
(e)	<ul style="list-style-type: none"> If the rate of VAT changes (1) Sheet can be updated easily / don't have to change the formula / only have to change the cell (1) 	2
(f)	3 marks for a working solution, with correct formulas identified. 2 marks for a partial solution, with at least one correct formula 1 mark for at least one correct idea, eg suitable label, a cell to put the %discount in... Example answers: <ul style="list-style-type: none"> (Add new row) with 'Discount' in column A / put 'Discount' into A15/16 Add formula to D15 OR add 5% to a spare cell $=D14*0.05$ OR $=D14*\text{that cell}$ Could calculate on ex-VAT total	3

5	(a) (i)	<ul style="list-style-type: none"> Job number (1) 	1												
	(ii)	<p>1 mark each point, max 2:</p> <ul style="list-style-type: none"> Key field is unique (1) Used to identify a record (1) Because names etc might not be unique (1) Used to link tables (1) <p>NOT to find customers</p>	2												
	(b)	<p>Accept any answer that might reasonably be stored, and connected with customers or jobs, eg:</p> <ul style="list-style-type: none"> Customer phone number Customer post code Date (of job) Date started Date completed Description of job Type of job <p><i>NOT irrelevant details such as date of birth</i></p>	2												
	(c)	<table border="1"> <tr> <td>customer name</td> <td>text</td> <td>(1)</td> </tr> <tr> <td>customer address</td> <td>text</td> <td>(1)</td> </tr> <tr> <td>price of job</td> <td>numeric</td> <td>(1)</td> </tr> <tr> <td>payment received (yes/no)</td> <td>Boolean</td> <td>(1)</td> </tr> </table>	customer name	text	(1)	customer address	text	(1)	price of job	numeric	(1)	payment received (yes/no)	Boolean	(1)	4
customer name	text	(1)													
customer address	text	(1)													
price of job	numeric	(1)													
payment received (yes/no)	Boolean	(1)													
	(d)	<p>max 5 points from:</p> <ul style="list-style-type: none"> Database with two or more tables / files (1) Tables linked together(1) Forms allow you to edit / add data to more than one table (1) Malcolm could have one table for customers (1) And one table for jobs (1) And one table for links / link with customer / job id (1) Reduces duplication (1) / Don't have to repeat data about customers if they have more than one job done (2) Easier to keep up to date (1) / If data changes you only need to update it once (2) Easier to find / handle data about customers if all in separate table (1) Can produce queries and reports from more than one table (1) 	5												
	(e) (i)	<p>1 mark each point, max 2:</p> <ul style="list-style-type: none"> Data about people Eg names, addresses, dates of birth, phone numbers. Other examples possible Enough to identify a person 	2												
	(e) (ii)	Data Protection Act	1												

(e) (iii)	<p>One mark each point, max 3</p> <ul style="list-style-type: none"> • Must register • Must show people their data (if they ask) • Must keep personal data accurate / up to date • Must not keep data longer than necessary • Must keep data secure • Keep backups • Prevent unauthorised people seeing it • Must not use data for anything else (other than registered purpose) • Data must be adequate / relevant / not excessive • Must not pass data to other countries / outside EU • Must not pass data onto other companies without permission 	3
6 (a)	<p>Up to 2 marks each description:</p> <ul style="list-style-type: none"> • Scan (1) (ordinary) photographs (1) • Take photographs with digital camera (1) and transfer them to the computer (1) 	4
(b)	<p>1 mark each point, max 4:</p> <ul style="list-style-type: none"> • Might be able to scan existing photographs / digital camera have to go out (1) • Ordinary photographs need developing – have to wait (1) have to finish film / might waste film (1) • Digital camera doesn't cost for film / developing (1) • Already has scanner (1) • Quicker to connect digital camera and transfer image than scanning existing photograph (1) • Both Ok / give photographs you want (1) <p><i>Nothing to do with quality</i></p>	4
(c)	<p>1 mark each point, max 3</p> <ul style="list-style-type: none"> • Name of company • His name • His address / company address • Contact phone number • Types of jobs done • Example prices • Quotes from satisfied customers <p>Any other appropriate answer</p>	3

7 (a)	<p>1 mark each point.</p> <ul style="list-style-type: none"> • On a computer • Including text • Including graphics • Including sound • Including animation / video <p>1 mark for 'a range of formats'</p>	4
(b)	<p>1 mark each point, max 5</p> <p>Must have a discussion of advantages and disadvantages for more than 3 marks</p> <ul style="list-style-type: none"> • Attractive / people more likely to stop and look • Makes him look up to date / professional / impressive • Allows better views / videos of his work • Sound will attract attention to his stall • People can get information even if he is busy talking to someone else • Extra equipment needed (must specify) • Interactive • Takes time to create • Need technical expertise to create • Takes time to set up • Need power on the stall • Sound might distract people he is talking to • Visitors can't take information away with them from the multimedia presentation • High tech image may not be so important in this type of business <p>NOT "multimedia equipment is expensive"</p>	5

8 (a)	<p>1 mark each point, max 4:</p> <ul style="list-style-type: none"> • Small / hand-held (1) computer / electronic organiser (1) • Can make notes / about jobs (1) • Can be used anywhere (1) • Contains a diary (1) so he can / make appointments / schedules (1) • Contains an address book (1) so he can keep details of customers and business contacts (1) • Send emails (1) • Can have automatic reminders (1) • Can transfer files to PC (1) • Can create tasks (1) • Can have a spreadsheet (1) to calculate costs of jobs (1) 	4
(b)	<p>1 mark each point, max 4:</p> <ul style="list-style-type: none"> • Pages of information (1) • On the Internet / linked together / multimedia / interactive (1) • To find good prices for materials (1) which would reduce his costs / make him more competitive (1) • To buy materials on-line (1) • To produce own web site (1) which would help advertise the company more widely / increase business (1) • NOT "the www is the internet" 	4
8 (c)	<p>1 mark each point, max 4:</p> <ul style="list-style-type: none"> • Sending messages (1) • Over the Internet / via a modem (1) • To send quotes to customers (1) more quickly/cheaply than by post (1) • To arrange / confirm dates with customers (1) • To make enquiries of suppliers (1) more quickly/cheaply than by post (1) • Can attach files (1) 	4
9 (a)	Light Dependent Resistor (LDR) (2) Light (1) sensor (1)	2
(b)	Light / lamp / bulb (1)	1
(c)	<p>1 from:</p> <ul style="list-style-type: none"> • Automatic • Comes on even if no-one is at home / security for holidays etc • Better than a timer because it adjusts for changes in the year 	1
(d)	<p>1 mark for an idea, 2 marks for an idea with expansion, eg:</p> <ul style="list-style-type: none"> • Security systems (1) with sensors to detect people in the garden / specific sensors, eg PIR (1), and an alarm / specific alarm device (1) • (Water feature) pumps (1) coming on when people walk past / at certain times (1) • Lights (0 on its own) coming on when people walk past (2) • Automatic sprinklers (1) coming on when the ground is dry (1) • Greenhouse heaters (1) coming on when the temperature is too low (1) • Automatic window openers in greenhouses (1) coming on when it is too hot (1) 	2
		100



RECOGNISING ACHIEVEMENT

REPORT ON THE UNITS
January 2005

Chief Examiners Report

General Comments

Although entries were significantly less than in June 2004 work was seen across the entire mark range in both the external assessment (4872) and the portfolios (4873 and 4874).

It was clear that many Centres had prepared their candidates better for this session. There was a notable improvement in the overall performance of candidates in the examination with a larger number scoring high marks. In both portfolio units candidate work addressed the criteria much better.

Evidence still shows that some Centres are attempting to deliver this specification in a smaller amount of time than is allocated to two single GCSE subjects. This is a double GCSE award and candidates are expected to do more than they would for a single award. Candidates need to master the range of applications software and acquire a thorough knowledge of the use of ICT in business and society. Whilst it is not possible to specify how long this will take the specification suggests a minimum of four hours a week over two years.

Principal Moderator's Report

General Comments

Candidates demonstrated good performance covering the entire mark range. It was pleasing to note that most Centres presented work for moderation with complete unit recording sheets (URS) although a few still fail to complete Candidate, Centre Numbers, or Unit Totals. There were fewer mark differences between MS1 forms and URS in this session showing that teachers are taking more care to check the transfer and addition of marks.

Teacher comments and annotation helped moderators to confirm Centre judgements and moderation was aided by clear referencing with page numbers and teacher annotation indicating where, and to what level, criteria had been achieved.

Portfolios indicated an improving standard but work from some Centres lacked originality with all candidates producing 'cloned' work and tending to suggest a certain amount of direction from teachers.

Centre marking was more accurate reflecting increasing familiarity with the assessment criteria of this new course. Attendance at OCR INSET courses gives guidance on assessment and help teachers understand the criteria.

Unit 2 Business Systems Portfolio 4873

Strand a

A range of good studies provided evidence into the way in which organisations use ICT. A significant number of Centres used case studies rather than visiting organisations. Whilst this is acceptable when circumstances restrict access to outside organisations teachers must make sure that the case studies provide sufficient scope to permit students to address the full mark range. Candidates need to detail the way in which use of applications software and hardware meet an organisation's needs and help them to function and communicate effectively.

Some Centres still gave marks beyond band one when candidates had only provided bulleted lists or made brief comments about the organisations. Some candidates did not look at specific organisations but produced general notes on, for example, how a bank uses ICT, rather than how one particular bank uses ICT. In these cases they were unable to relate uses of software and hardware to the needs of the organisation. Some candidates suggested software an organisation would use making it obvious they had not researched what the organisation does use.

Candidates still fail to detail the way in which organisations use computer networks to meet their needs. For example, candidates mentioned that a school used Sims.net for administration but did not detail how the software works or cover advantages for the school of running this software across a network to help the school function efficiently. To score at the highest level candidates must provide cogent explanations as to why use meets the organisation's needs.

Strand b

Some Centres still allowed candidates to create their own documents rather than review 'real' ones; this does not satisfy the criteria. More candidates had included the documents reviewed and there was often good annotation describing layout, content and writing and presentation styles.

Teachers may need to give more guidance to candidates on the type and range of documents they should use in this strand. It would be sensible to review the types of

documents they will be creating in strand c. For candidates aiming for middle and higher band marks this should be newsletters, business reports and web sites rather than flyers, memos and forms. This will enable them to draw conclusions about, for example, layout, content and house style.

Strand c

Some Centres still awarded high marks where candidates failed to meet the basic rubric of producing one document using each of word processing, publication and presentation software. Failure to use all three software types limits marks to the lowest mark band.

Fewer candidates presented basic documents produced using default settings and templates such as single sheet flyers or business cards and there was an obvious improvement in the quality of content and presentation. Some of the documents however made it obvious that the candidate had not learned how a real business report or newsletter is laid out or what they contain. Producing a business report for example gives opportunities to format pages in columns and have text flowing between them and wrapping around graphics which could include photographs, drawings, graphs, charts, etc, imported from other software. Suitable headings and sub headings could be used with sensible choices of fonts, sizes, attributes and colours to suit both audience and purpose.

Giving documents to candidates for them to copy limits creativity and restricts marks to the lowest band.

Strand d

There were fewer flow charts and more level 1 data flow diagrams but often little evidence of the investigation of information flows. Analysis is necessary to move into the higher mark band.

Strand e

Candidates are still too vague in saying what their system will do and what the desired outcomes will be. Even a basic design specification should make clear what the purpose of the system is and what the intended output is.

For three or four marks the system designed by the candidate should be more complex. A complex system may be one requiring the use of more than one piece of software, or may carry out a range of tasks using a single piece of software, eg a database with two or more related tables, or a complex multi-sheet spreadsheet. A basic design specification using bullet points or simple statements to identify user requirements, etc., was often given too much credit. High marks were awarded for rather inadequate design specifications. Sometimes little thought was given to how the system would be tested.

Candidates may need guidance on choosing a task which will stretch their capabilities but at the same time will not be beyond their ability to ensure that they can complete it.

Strand f

Implementation was often documented well with extensive use of screenshots but it should include examples of input as well as output. For 5 and 6 marks there should be evidence of a range of input and output, demonstrating the way the system meets the needs identified in the design specification. The records do not need to specify every key and icon to press – it can be assumed that the reader has a working knowledge of the software – but it should give details about all the stages involved in the implementation, and the structures and data entered. A reader should be able to recreate the system from the documentation, without making any decisions/judgements.

Candidates who scored well included clear descriptions of what they had done.

Strand g

Testing should check outcomes against user requirements as well as data input. One mark can be awarded if there is evidence of at least some output created by the system even if there is no overt testing.

Testing using normal, abnormal and extreme data is needed for middle band marks and whilst this may involve validation checks a range of tests checking that output meets user requirements is also needed for marks in the middle band.

An evaluation is needed for higher band marks.

Strand h

Some candidates missed this strand altogether whilst others reproduced user guides for 'Access'. It is not necessary for candidates to write at great length for this strand. What is required are instructions guiding a user to open the software, input data, obtain output, print the output and save and exit. A useful example to give candidates would be the type of quick start guides found when you buy a new piece of electronic equipment rather than the thicker, more comprehensive manual.

Unit 3 ICT Survey Portfolio 4874

Strand a

In strand a candidates should evidence the research methods and sources they have used to produce their portfolio. They should evidence effective use of the Internet as a research tool in collecting information for their portfolio as well as listing the books they have used. Bibliographies were sometimes restricted to home pages rather than url's of the actual page on which information was found. Candidates should list **all** the sources they use to score more than 3 marks. This should include sources on available technologies and for the impact of ICT developments in the specified areas as well as the web sites used to show they can use advanced search techniques. In the higher band they must cross reference sources to check for accuracy and/or bias.

Strand b

Candidates set up databases with no clear indication of the purpose of their survey and meaningless queries and reports seemingly just to show that they could do it. Teachers must ensure that candidates start their survey with clear aims, objectives or hypotheses so that their survey report has some focus.

There are no marks in this strand for documenting the database but sufficient evidence should be provided to show the use of, for example, sorting, simple and complex searches, data input forms and the application of validation rules. For higher marks candidates need to produce a report analysing the results of their survey.

Candidates gained better marks where they used data from several sources, for example a survey amongst users of isp's in one table, related to details of features or tariffs from a magazine or the Internet.

Strand c

Simplistic spreadsheets, using little more than the sum function, were sometimes given marks in the middle band. Candidates should produce printouts showing the formulae used. A range of functions such as lookups, countifs and features such as pivot tables, or cross referenced multiple sheets would be sufficiently complex for marks in the middle band. Candidates need to produce a coherent report analysing their results to achieve higher band marks. Teachers should check that the data collected by candidates lends itself to spreadsheet analysis and will provide useful data for their report.

Strand d

Presentations often used standard clip art, sound and animations and where candidates did produce non-linear presentations these were often limited to forward and back. More candidates however showed that they had produced their own media components to gain higher band marks. Some Centres awarded marks in the middle band with no evidence of storyboards or structure diagrams. At this level candidates should be able to produce quality presentations using more advanced software features and combining media from other sources.

Teachers should encourage candidates to annotate their presentations to show where they have used multimedia elements such as buttons, hotspots, animation, sound and video. Where candidates had failed to do provide annotation there were good examples of detailed teacher witness statements as evidence.

Strand e

Candidates must refer to groups or individuals and this requirement is not met by writing in general about, for example, supermarkets, banks, call centres and ICT help desks, without specific reference to their staff and/or customers. Candidates writing in such general terms without identifying specific groups or individuals are limited to e1. Candidates who fail to satisfy the minimum requirement of commenting on at least two groups or individuals affected by developments in ICT in at least two of the areas cannot be awarded marks.

Some candidates provided good evidence of the effects on the identified groups of developments in ICT in some of the listed areas although there was evidence that some did not really understand what they were writing and merely paraphrased what was in the book. Middle or higher band marks require fuller explanations as well as coverage of more groups/individuals in more areas.

Strand f

Candidates who merely identify benefits/advantages without considering needs should only be awarded marks in f1. Meeting a need is defined as satisfying a basic requirement, either personal or corporate. A benefit is an advantage of being able to meet that requirement in a particular way. For example, candidates might write about the advantages of using email as a form of communication. At a higher level they might first give details of the particular needs that are met by email – keeping in touch with families, sending short messages between businesses... and then identify some of the advantages of using email for these purposes.

Some Centres awarded high marks where candidates had merely identified advantages. To achieve middle band marks candidates must describe clearly, at least one need and two benefits that are met through the use of ICT. In the higher band candidates must provide a detailed analysis of at least two needs that are met and at least two benefits available through the use of ICT in each of the five areas identified.

Strand g

The requirements of this strand are frequently misinterpreted by Centres as being either general disadvantages of using ICT, or advantages of people with disabilities using ICT. Neither of these approaches meets the requirements.

Some candidates lost marks by writing in general terms and not identifying the consequences of restricted or no access to ICT for specific groups or individuals.

The work of candidates at the lowest level is often limited to statements that those with restricted or no access to ICT don't have the benefits that they have identified in the previous strands. For middle and higher band marks fuller explanations of the consequences are needed.

For example, in the area of communications those with no access to computers and the Internet will not have the advantages of email – quick and easy communication with friends and relatives. This type of statement falls into g1. Further explanation that this might result in people becoming more isolated, left out of activities, losing contact with friends over time... is required before middle and higher band marks can be considered.

4872: ICT Knowledge and Understanding (Written Examination)

General Comments

There was a notable improvement in the overall performance of candidates in this unit this session, with a larger number doing well or very well, although there remained a full spread of results in the cohort.

Whilst there are no marks for the quality of written communication candidates should be advised that single words are rarely sufficient to answer a question. It is also important that answers are legible.

Applied ICT question papers set all questions in the context of an imaginary business, outlined at the start of the paper. Candidates can often gain marks by applying their subject knowledge to this particular context.

It was clear that many Centres had prepared their candidates well for this paper. However, it should be noted that whilst questions might look similar to those asked in previous sessions the context might make the required answers quite different.

Where candidates are asked to consider advantages of particular applications of ICT they should avoid giving generalised statements such as 'easier', 'quicker', 'cheaper' and 'more efficient' without any expansion. On their own these answers do not gain marks.

Where more than one mark is available for a question or part of a question then candidates need to give specific points for each mark. Some candidates answered in bullet points, helping them ensure that they had made sufficient points rather than revisiting the same point over and over again.

Centres should note that brand names of software and hardware cannot be given credit.

Comments on Individual Questions

Q No)

- 1) (a-c) These questions were answered well by the majority of candidates. However, there remain some Centres where many candidates miss out on these easy marks because they do not know what input devices, output devices and backing storage are. The most common misconceptions in otherwise good answers were to omit scanner from (a) and substitute either CD-ROM drive or floppy disk drive.
- (d) A pleasing number of candidates gained full marks for (i), having clearly learned a full definition of backup. Many were able to gain some marks for having a vague idea of the purpose of a backup whilst a minority showed some confusion between saving and backing up.

(ii) and (iii) were generally answered well, but hard disk drive and CD-ROM drive were common incorrect answers for both parts.

The second part of (iii) asked for an additional device to be added to Malcolm's computer system. Some candidates failed to gain this mark because they gave devices from the list in Fig.1 whilst others gave media, eg Zip disk, without giving the **device** (eg Zip drive) that would need to be added to his computer system in order to read the suggested medium.

Report on the Units taken in January 2005

- 2) (a) Most candidates were able to identify the necessary features, although many did not follow the instruction to circle the section. Credit was given wherever the relevant features were unambiguously identified but candidates should be advised to read instructions carefully and do what the question asks.
- (b) This was answered correctly by most candidates, with desktop publisher being the most common answer. A significant minority of candidates lost the mark because they only identified a brand name rather than a type of software, whilst others invented names such as 'publishing software'.
- (c) Most candidates were able to suggest a suitable item here, although some failed to consider the needs of a garden designer, suggesting items such as 'newspaper article', which perhaps reflected items that the candidates had created in their studies.
- 3) (a) The majority of candidates were able to suggest a graphics tablet or mouse here, although a number were unable to give the correct name for a graphics tablet.
- (b) Most candidates attempted this question and showed that they were aware of what CAD is. Whilst a few very good candidates were able to gain all five marks the majority of answers contained many vague statements such as 'quicker', 'more accurate' and 'better'. Some candidates indicated that the use of CAD involved no skill, whilst others wrote about hand-drawn designs as if the only option was rough sketches as opposed to professional drawings.
- (c) Many candidates were able to compare the two printers well, gaining two or three marks. However, a number thought that laser printers could only print in black. Others were too vague about cost, failing to distinguish between purchase and running costs. Common answers that failed to gain marks included 'ink jet printers run out of ink quickly'.
- It should be noted that 'LaserJet' is a brand name.
- 4) (a-b) The majority of candidates answered these questions well, although it was disappointing to see some candidates who seemed to have no idea about how to refer to a spreadsheet cell.
- (c) Most candidates gained both marks for this question. Although all formulas that would work were awarded full marks, candidates should know that it is not necessary to include 'SUM' in every formula.

Answers that were credited with one mark included $\text{sum} = (\text{B4} * \text{C4})$ and $\text{D4} = (\text{B4} * \text{C4})$, where there was some merit but the formula given, if typed into a spreadsheet, would not work.

Some candidates had clearly learned something about absolute cell referencing and wrote about this, with little understanding, in part (c), (d) or (e)

- (d) This was well answered by the majority of candidates, who showed a clear knowledge of an automatic method of replicating formulas. Very few wrote about using a menu option, with dragging down being the most common answer and candidates from some Centres writing about copying and pasting.

Some candidates gained only one mark because their answer was too vague. Often candidates failed to even imply which cells they were clicking in and dragging to. Some candidates failed to gain marks because they suggested that they would alter the formula in each row.

- (e) This question allowed candidates with a good understanding of the use of spreadsheets to demonstrate this, with a significant minority gaining both marks from a clear and concise answer such as 'if the VAT percentage changed then you would only have to change D9, not the formula'.

Weaker candidates attempted this question by suggesting that the second formula would be more accurate or easier for the computer.

- (f) Although many candidates did not gain any marks on this part of the question a significant number were able to suggest adding a new column or row, and a suitable label for this. This was sufficient for one mark.

A minority were able to give an appropriate formula for two marks, with a few gaining full marks for a complete solution that would work.

- 5) (a) Many candidates were able to identify job number as the key field, gaining at least one mark for (ii) by showing an understanding that a key field is unique. However, few were able to gain full marks for giving further details such as the need for a key field to identify a record because other fields might be duplicated, or to link tables.

Some candidates appeared to be guessing, suggesting that the key field is the most important and choosing a field other than job number that they considered to be more significant than the rest.

- (b) This was generally well answered although a significant minority of candidates misunderstood the question, responding with fields already given in the question.

- (c) This question was well answered by many candidates, with Boolean being the least well-recognised file type.

Some candidates appeared not to be aware that a text field can contain any character, so suggested 'text and numeric' or 'Boolean' for customer address.

- (d) Most candidates felt able to attempt this question, although many did not show any understanding of what a relational database is. Vague answers often relied on the words 'relational' and 'database' from the question. Some candidates gained one or two marks by showing an understanding that data was held in separate groups (often incorrectly referred to as 'databases' rather than 'tables' or 'files') that were linked in some way.

It was difficult to gain full marks for this question without answering both parts – what a relational database is and why it would be useful to Malcolm.

A few candidates gave excellent answers describing the linking of tables in general, specific tables for Malcolm to use and showing a clear understanding of how multiple tables reduce duplication.

- (e) Answers to (i) frequently focussed on the idea of data that should be kept private or 'Malcolm's own data'. Other answers were too vague, relying on the words 'personal' and 'data' from the question. However, many candidates gained at least one mark, usually for giving an example.

Part (ii) was well answered by the majority of candidates, most of whom gained at least one mark from part (iii), often for a specific suggestion such as 'password protect his data' rather than a more general requirement of the Act such as 'keep data secure'. A number of candidates had clearly learned the main provisions of the Act and gained all three marks.

- 6) (a) This question was well answered by many candidates, although a number did not note that Malcolm wanted to include photographs of specific gardens that he had completed and suggested obtaining photographs from the Internet. Others, presumably remembering questions from previous sessions, wrote about other methods of obtaining pictures such as clip art.

Although the question clearly asked for a **description** of two methods and left three lines for each answer, some candidates gave over-brief answers, which often merited only one mark out of the two available for each part.

- (b) This question was well answered by only a few candidates, with most answers being over vague or concentrating on aspects such as quality and cost that differ more between different models of scanners and digital cameras than between the two different methods.

Where marks were gained this was usually through recognition of the fact that using a scanner involved waiting and/or paying for a traditional film to be developed.

- (c) This question was generally very well answered although some candidates gave suggestions such as 'date of the exhibition' and 'where the exhibition is held' that did not meet the requirements of the question. Others lost marks through over-vague, often single-word answers such as 'text', 'title', 'name'.

- 7) (a) Many candidates had clearly learned that a multimedia presentation involved the use of text, graphics, sound and animation, gaining four easy marks. However, a large number gave vague descriptions of 'slide shows', often giving brand names of software used in their own portfolios. 'Text' was the item most commonly missed by those candidates gaining part marks for this question.

- (b) Although most candidates attempted this question and many gained one or two marks, only a few were able to give a thorough answer meriting all five available marks.

The most common answers that gained credit referred to the fact that a multimedia presentation would attract attention to Malcolm's stand and would be more impressive to potential customers.

Many answers were vague and not specific to a multimedia display, such as 'it could show customers the sort of work he can do.'

The best answers came from candidates who gave careful consideration to the situation in the question and suggested advantages such as the fact that some visitors could gain information from the display if Malcolm was busy talking to someone else, and disadvantages such as the fact that people might not be walking past at the beginning of the presentation or that they could not take it home with them.

- 8) (a-c) A large number of candidates failed to answer the first part of the question in each section – 'Describe the term', so making it much more difficult to give four valid points.

Many candidates failed to consider the use of these facilities in the particular context of a garden designer working on his own. This may have been due to memorising answers from similar questions on papers from previous sessions.

- (a) Those candidates who knew what a PDA is generally were able to gain some marks for this question, with many gaining all four available marks.

Some candidates wrote about using email whilst away from home, without any recognition of additional devices needed.

Some candidates wrote about help routines (usually the Office Assistant) in software packages or about a person.

- (b) Most candidates gained at least one or two marks for this question although many were unable to distinguish the World Wide Web from the Internet.

There were a number of very full answers, containing specific suggestions such as using map sites to get directions to client's homes, searching for the best prices for materials, looking at rival firms' websites to compare what he is offering with the competition and the fact that Malcolm could produce his own website. However, there were also a large number of very vague answers such as 'he could research for information' and inappropriate suggestions such as 'his website could get him customers from all over the world' and 'he could set up a site where customers could buy online'.

- (c) Although many candidates expanded 'e-mail' into 'electronic mail' a large number failed to go on to describe the term to gain the two easy marks available for 'sending messages over the Internet'.

Again there were a number of vague answers such as 'Malcolm could email his customers and suppliers' without any consideration of the purpose of these emails. Inappropriate answers included suggestions that he could email family, friends and the office when he is away from home.

Report on the Units taken in January 2005

- 9) It was pleasing to note that the majority of candidates had a basic understanding of computer control.
- 9) (a) This was well answered by most candidates, although a number lost a mark for referring to a 'detector' rather than giving the correct technical term of 'sensor'.
- (b) Most candidates gained the mark for this part of the question
- (c) Many candidates gained this mark by recognising the advantage of an automatic system, although some candidates gave advantages of having a light on at night rather than having a microprocessor-controlled system to switch this light on and off.
- (d) A good range of possibilities was suggested by candidates, with automatic switching on and off of water features and sprinklers being the most commonly suggested systems. Some candidates drew on knowledge of new technologies such as robot lawnmowers.

**General Certificate of Secondary Education
in Applied Information and Communication Technology (Double Award) (1494)
January 2005 Assessment Session**

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
4872	Raw	100	86	76	66	56	47	39	31	23	0
	UMS	100	90	80	70	60	50	40	30	20	20
4873	Raw	50	47	42	36	31	26	21	16	11	0
	UMS	100	90	80	70	60	50	40	30	20	20
4874	Raw	50	47	42	36	31	26	21	16	11	0
	UMS	100	90	80	70	60	50	40	30	20	0

Specification Aggregation Results

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

	Maximum Mark	A*A*	AA	BB	CC	DD	EE	FF	GG	UU
1494	300	270	240	210	180	150	120	90	60	0

The cumulative percentage of candidates awarded each grade was as follows:

	A*A*	AA	BB	CC	DD	EE	FF	GG	UU	Total Number of Candidates
1494	0	10.8	32.4	67.6	81.1	91.9	100	100	100	37

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