

# Combined Mark Schemes And Report on the Units

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June 2005

1494/MS/R/05

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This mark scheme is 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.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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Mark Scheme 4872  
June 2005

## INSTRUCTIONS ON MARKING SCRIPTS

*All page references relate to the Instructions to Examiner booklet (revised September 2004)*

For many question papers there will also be subject or paper specific instructions which supplement these general instructions. The paper specific instructions follow these generic ones.

### 1 Before the standardisation meeting

Before the standardisation meeting you must mark a selection of at least 10 scripts. The selection should be drawn from several Centres. The preliminary marking should be carried out **in pencil** in strict accordance with the mark scheme. In order to help identify any marking issues which might subsequently be encountered in carrying out your duties, the marked scripts must be brought to the meeting. (*Section 5c, page 5*)

### 2 After the standardisation meeting

- a) Scripts must be marked in **red**, including those initially marked in pencil for the standardisation meeting.
- b) All scripts must be marked in accordance with the version of the final mark scheme agreed at the standardisation meeting.
- c) **Annotation of scripts**

The purpose of annotation is to enable examiners to indicate clearly where a mark is earned or why it has not been awarded. Annotation can, therefore, help examiners, checkers, and those remarking scripts to understand how the script has been marked.

#### **Annotation consists of:**

- the use of ticks and crosses against responses to show where marks have been earned or not earned;
- the use of specific words or phrases as agreed at standardisation and as contained in the final mark scheme either to confirm why a mark has been earned or indicate why a mark has not been earned (e.g. indicate an omission);
- the use of standard abbreviations e.g. for follow through, special case etc.

Any comments should be kept to a minimum and should always be specifically related to the award of a mark or marks and be taken (if appropriate) from statements in the mark scheme. General comments on a candidate's work must be avoided.

Where annotations are put onto the candidates' script evidence, they should normally be recorded in the body of the answer or in the margin immediately adjacent to the point where the decision is made to award or not award the mark.

**d) Recording of marking: the scripts**

- i) Marked scripts must give a clear indication of how marks have been awarded as instructed in the mark scheme.
- ii) All numerical marks for responses to part questions should be recorded un-ringed in the right-hand margin. The total for each question (or, in specified cases, for each page or section) should be shown as a single ringed mark in the right-hand margin at the end of the question.
- iii) The ringed totals should be transferred to the front page of the script, where they should be totalled.
- iv) Every page of a script on which the candidate has made a response should show evidence that the work has been seen.
- v) Every blank page should be crossed through to indicate that it has been seen.

*(Section 8a – d, page 7)*

**e) Handling of unexpected answers**

The standardisation meeting will include a discussion of marking issues, including:

- a full consideration of the mark scheme with the objective of achieving a clear and common understanding of the range of acceptable responses and the marks appropriate to them, and comparable marking standards for optional questions;
- the handling of unexpected, yet acceptable answers.

*(Section 6a, bullet point 5, page 6)*

There will be times when you may not be clear how the mark scheme should be applied to a particular response. In these circumstances, a telephone call to the Team Leader should produce a speedy resolution to the problem.

*(Appendix 5, para 19, page 25)*

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		Marks
1 (a)	B – Any or all of <i>clouds and sunshine</i> or title <i>Coloured Crystal</i> (1) C – <b>Coloured Crystal</b> or any of the headings in the footer – <b>Address, fax, email, website, telephone</b> (1) D – Any or all of the three main paragraphs, with or without extra text at top/bottom. Must include some of the body text (1) E – All of the footer of the letter, with or without the line. If not circled, there must be a clear implication that it is the whole footer. (1)	<b>4</b>
(b)	One from <ul style="list-style-type: none"> <li>• Thesaurus</li> <li>• Synonym(s)</li> </ul>	<b>1</b>
(c)	<ul style="list-style-type: none"> <li>• Mark / highlight the third paragraph (needs to be precise) (1)</li> <li>• Choose cut (<i>NOT</i> copy) (1)</li> <li>• Move before the second paragraph / after the first / where she wants it to go and choose paste (1)</li> </ul> OR <ul style="list-style-type: none"> <li>• Mark / highlight the third paragraph (1)</li> <li>• Drag (1)</li> <li>• To before the second paragraph after the first / where she wants it to go (1)</li> </ul> OR <ul style="list-style-type: none"> <li>• Mark / highlight the third paragraph (1)</li> <li>• Press ctrl-x (1)</li> <li>• Move before the second paragraph / after the first / where she wants it to go and press ctrl-v (1)</li> </ul> Can also have full marks for equivalent moving the second paragraph after the third. Award mark for moving the correct paragraph, regardless of spacing, as it is often not clear whether or not line breaks are being selected with the text.	<b>3</b>



2 (a)	<ul style="list-style-type: none"> <li>• Using CAD/CAM to design and make items</li> <li>• <i>Using a word processor to write letters to customers</i></li> <li>• Using a spreadsheet to calculate annual profits</li> <li>• Keeping details about suppliers in a database.</li> </ul> <p>1 mark each line</p>	3
(b) (i)	<ul style="list-style-type: none"> <li>• Keyboard</li> <li>• Mouse</li> </ul>	2
(ii)	<ul style="list-style-type: none"> <li>• Printer</li> <li>• Monitor (accept alternatives eg screen, VDU)</li> </ul>	2
(iii)	<ul style="list-style-type: none"> <li>• Processor (accept CPU)</li> </ul>	1
(iv)	<ul style="list-style-type: none"> <li>• RAM</li> </ul>	1
(v)	<ul style="list-style-type: none"> <li>• CD Writer. Accept CD drive but not CD</li> <li>• Floppy Drive. Accept floppy disk drive but not floppy disk</li> </ul>	2
(c) (i)	<ul style="list-style-type: none"> <li>• USB / Universal Serial Bus / infra red / network</li> </ul>	1
(ii)	<p>One from:</p> <ul style="list-style-type: none"> <li>• USB gives faster data transfer (<i>NOT</i> just 'faster')</li> <li>• On USB/network more ports / can connect more than one printer at a time</li> <li>• USB port more accessible</li> <li>• USB plug and play</li> <li>• Printers with USB connections cheaper</li> <li>• Network ports allow sharing of printers / more printers</li> <li>• Infra red – no cables required</li> </ul> <p>Answer must match (i). If (i) incorrect then (ii) cannot be correct.</p>	1
(d)	<ul style="list-style-type: none"> <li>• NIC / network interface card / network interface / network card</li> </ul> <p><i>NOT network port, network cable.</i></p>	1

3	<p>Three from:</p> <ul style="list-style-type: none"> <li>• Falling over trailing cables (1) No trailing cables / cables tidied away / more power points near to computers (1)</li> <li>• (Electrical) fire (1) Don't overload power points / put in extra power points / keep liquids/drinks away from computers (1) DO NOT accept fire extinguisher</li> <li>• Back problems (1) Adjustable chair (<i>NOT</i> just 'comfy') / have desks/chairs/monitors the correct height / use a footrest / take regular breaks / posture (1)</li> <li>• Eye strain / headaches / eyesight problems (1) Screen filter / Blinds / Diffused lighting / TFT screens / regular eye checks / take regular breaks / look away/change focus regularly / avoid reflections on the screen. <i>NOT sit further away</i> (1)</li> <li>• RSI / wrist strain (1) Tilted keyboard / wrist rest / take regular breaks (1)</li> <li>• Temperature (1) / or overheating Air conditioning / ventilation (1)</li> <li>• Electric shock (1) / electrocution Get equipment regularly (PAT) tested (1)</li> <li>• Bringing on epileptic fits (1) Filter screen (1) Avoid flashing screens (1)</li> </ul> <p>Give one mark only for regular breaks. If a time is given, accept anything that is not clearly ridiculous. If breaks repeated and there is another solution given, mark the extra one. <i>NOT</i> computers falling off desks, food and drink by computers (except relating to keeping liquids away). <i>NOT</i> stress</p> <p>Candidates may give the solution in reverse as the problem (eg overloaded power points). Award (1) mark for the problem but only award a mark for the solution if it says something more by identifying the problem. Solution must match the problem but can award solution mark if problem not well defined.</p>	6
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4 (a)	<ul style="list-style-type: none"> <li>• £4,095,000 (2)</li> <li>• 4,095 / £4,095 / 4,095,000 (1)</li> </ul>	<b>2</b>
(b)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Highlight numbers</li> <li>• set format / formatted</li> <li>• to add the comma / thousands separator</li> </ul>	<b>2</b>
(c)	<ul style="list-style-type: none"> <li>• Highlight columns A and E / column E. <i>NOT</i> whole table (1)</li> </ul> <p>Plus two from:</p> <ul style="list-style-type: none"> <li>• Choose graph/chart option/button/tool/wizard. <i>NOT</i> wizard on its own.</li> <li>• Choose (not create) pie chart</li> <li>• Add labels</li> <li>• Customise chart, eg colours, explode, 3/2D....</li> <li>• Choose where to put graph</li> </ul> <p><b>Need to highlight at least column E for maximum marks, otherwise max 2.</b></p>	<b>3</b>
(d)	<ul style="list-style-type: none"> <li>• Mark / highlight / click on chart (1)</li> <li>• Copy / cut (1)</li> <li>• Move onto WP page/report and choose paste (1)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Save chart (1)</li> <li>• Move onto WP page/report and choose import (1)</li> <li>• Type in / choose file name</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• Print screen</li> <li>• Paste onto report</li> <li>• crop</li> </ul> <p><i>MUST</i> go to report, ie not hyperlink to it. Moving onto the WP page/report may be implied – it doesn't have to be explicit.</p>	<b>3</b>
(e)	<p>Marks available if explained in words or illustrated. Language may be problem – candidates may have difficulty explaining their ideas:</p> <ul style="list-style-type: none"> <li>• Bars can be horizontal or vertical not much difference between 2 / sensible comparison</li> <li>• Bar / line chart – can have bars for all years on one set of axes / need separate pie chart for each year</li> <li>• Easier to compare when all on same chart</li> <li>• Would be a lot / 16 bars if all together</li> <li>• Looks complicated with so many bars</li> <li>• Not easy to tell years apart on bar chart if printed in black and white</li> <li>• Bars/lines good to compare amounts between years / for different ranges</li> <li>• Bars/lines easy to read exact amounts / pie chart difficult to read exact amounts.</li> <li>• Line better for showing change from year to year</li> <li>• Line doesn't look so complicated / just 4 lines</li> <li>• Pie good for seeing proportions / percentage of total for each</li> <li>• pie chart can extract a slice to make a particular point</li> <li>• 3-d more attractive</li> <li>• 3-d can be misleading</li> <li>• Harder to read amounts from 3-d (bars)</li> <li>• 3-d bars can show different years / types further back, easier to see</li> <li>• 3-d lines possible but look odd / complicated</li> <li>• better to be consistent</li> </ul> <p>1 mark available for a reasoned choice for this particular example</p>	<b>6</b>

5 (a)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Program/software/code. <i>NOT</i> file</li> <li>• that copies itself / spreads</li> <li>• and disrupts / changes the way a computer works / corrupts/changes files. OK if an example given, provided the candidate clearly gives it as an example.</li> </ul> <p><i>NOT</i> destroys files</p>	2
5 (b)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Floppy disks</li> <li>• CD's</li> <li>• Email attachments (<i>NOT</i> just emails)</li> <li>• Downloading/receiving (software) from the Internet</li> <li>• Zip disks</li> <li>• Jaz disks</li> <li>• Network (cables)</li> <li>• Any other removable storage device, eg memory stick</li> <li>• Networks</li> </ul>	2
5 (c)	<ul style="list-style-type: none"> <li>• (Using/Installing) virus protection software / anti-virus (<i>NOT</i> firewall)</li> <li>• Make sure it is regularly updated</li> <li>• Check all incoming emails with virus protection software (use of software must be at least implied)</li> <li>• Check all new disks/files as they are used (use of software must be at least implied)</li> <li>• Don't open unexpected attachments / emails/attachments from unknown sources</li> <li>• Ban the use of disks from outside the company</li> <li>• Use a 'sheepdip' computer to check disks</li> </ul> <p><i>NOT</i> regular checks – must be prevention.</p>	2
6 (a)	<p>2 marks for each item:</p> <ul style="list-style-type: none"> <li>• CAD = Computer Aided Design</li> <li>• For drawing/creating designs</li> <li>• CAM = Computer Aided Manufacture</li> <li>• For automatic manufacture/machines / manufacturing/machines controlled by computer</li> <li>• Creating objects from the drawings</li> </ul>	4
6 (b)	<p>Up to 3 marks for advantages eg:</p> <ul style="list-style-type: none"> <li>• Machines set up / objects created automatically from drawings</li> <li>• (Drawings) easily altered</li> <li>• Designs can be viewed in 3-d / from any angle</li> <li>• Quicker than making objects by hand</li> <li>• More accurate than making objects by hand / very accurate measurements</li> <li>• Quality more consistent</li> <li>• Cheaper to manufacture / in the long term / less labour needed</li> <li>• Safer</li> <li>• Machines work without a break <i>NOT</i> 24/7</li> </ul> <p>Easier, quicker, cheaper, more accurate all need at least some expansion or comparison.</p> <p>Disadvantages – 2 from:</p> <ul style="list-style-type: none"> <li>• Expensive to set up / buy/maintain/repair (equipment)</li> <li>• Need different / more skills to use / set up / staff need retraining</li> <li>• Loss of jobs <i>NOT</i> "all workers will be sacked"</li> </ul>	5

<b>7 (a)</b>	Label	Database component	Correct Answer Only (CAO)	<b>3</b>
	A	Field name		
	B	Field		
	C	Record		
<b>(b)</b>	Order number CAO			<b>1</b>
<b>(c)</b>	<p>Up to 4 marks from:</p> <ul style="list-style-type: none"> <li>• Search / query / find / filter</li> <li>• Date payment received is null / blank</li> <li>• AND</li> <li>• Date goods sent is more than / &gt; / is after 28 days ago (less than 10<sup>th</sup> May)</li> </ul> <p>Or Date goods sent is less than / &lt; / is before the date 28 days ago Or today's date is more than / &gt; / is after 28 days after Date goods sent</p> <p>Full marks available for a description of entering details in a filter screen, without necessarily mentioning the AND. Marks <i>NOT</i> available for criteria if the field name is not given or referred to.</p>			<b>4</b>
<b>(d)</b>	<p>Two marks for each table. (1) for a vague reference or single word/ name/ implied purpose, (2) if at least two example fields are given relevant to the name/purpose</p> <ul style="list-style-type: none"> <li>• Customers table with ID number, customer names, addresses, telephone numbers, personal details etc</li> <li>• Products table with code, type, name, description, price, range etc</li> <li>• Orders/Goods ordered table with order number and product code</li> </ul>			<b>4</b>
<b>(e)</b>	<ul style="list-style-type: none"> <li>• See just one record at a time / don't get mixed up between records</li> <li>• Can see all fields on screen at once / no need to scroll across columns</li> <li>• Can enter data into different tables (1) without knowing the structure / knowing that they are in different tables (1) more quickly (1)</li> <li>• Can put company logo on forms / reinforce corporate identity</li> <li>• Know format for data entry</li> <li>• Layout can match the data collection form</li> <li>• <u>Easier for beginners / non experts</u></li> <li>• Can have print/save/delete etc buttons (making these tasks easier)</li> <li>• Prompt instructions</li> </ul> <p>Need something more than 'easier to input data'</p>			<b>3</b>

8 (a)	<p>Three from:</p> <ul style="list-style-type: none"> <li>• Video / animation</li> <li>• Sound</li> <li>• Links / buttons / hotspots</li> <li>• Counter</li> <li>• Link to send e-mail</li> <li>• Frames</li> <li>• Search facility</li> <li>• Tables</li> <li>• Online order form</li> </ul> <p>No marks for examples of text or pictures  <i>NOT</i> shopping or games</p>	<b>3</b>
(b)	<p>Three from:</p> <ul style="list-style-type: none"> <li>• Name of company</li> <li>• Address (of company)</li> <li>• (Company) telephone number</li> <li>• E-mail address/link to e-mail</li> <li>• Links to other pages / navigation bar / menu bar / button bar</li> <li>• Company logo</li> <li>• Counter</li> <li>• Special offers / adverts for <b>new</b> products/best sellers / <b>example</b> prices, <b>example</b> pictures (no marks for complete lists etc that would appear on other pages)</li> <li>• Basic information about the company / what it does</li> </ul> <p>Other answers are possible, if they could be reasonably be expected to appear on a company's home page, but not for details that would be more likely to be on another page.</p>	<b>3</b>
(c)	<p>Two from:</p> <ul style="list-style-type: none"> <li>• Digital camera (1) take photographs/pictures/video (of items) (1)</li> <li>• Scanner/ scan (1) (existing) photographs/pictures (of items) (1)</li> <li>• Web cam (1) show video from factory/warehouse/exhibition (1)</li> </ul>	<b>4</b>
(d)	<p>Four from:</p> <ul style="list-style-type: none"> <li>• Encoding/jumbling/scrambling data/making data unintelligible/meaningless</li> <li>• For security/cannot be understood by unauthorised people</li> <li>• Without a decryption key</li> <li>• Needed to stop other people accessing details/hackers / prevent credit card fraud</li> <li>• Because data is important/financial/credit cards – implying the importance of keeping this particular data private. This may be as an illustration / example of the effect.</li> <li>• Because Internet code of practice says that financial details must be encrypted</li> <li>• Because company could be liable if customers details are used by others</li> </ul>	<b>4</b>

9 (a)	<p>4 marks from:</p> <ul style="list-style-type: none"> <li>• Pages of information</li> <li>• On the Internet/available through telephone lines.</li> <li>• To find out about companies visited</li> <li>• To find addresses of companies</li> <li>• To get travel directions</li> <li>• To buy rail/flight/ferry tickets</li> <li>• To check out rival company's products/prices</li> <li>• To get information from Coloured Crystal's website/show website to customers <i>NOT</i> just accessing website.</li> <li>• To check e-mail when away from the office (<i>NOT</i> general email answers)</li> <li>• For remote access to user area / files (vpn)</li> </ul> <p>No mark for 'It is the Internet'. Nothing to do with creating a website or advertising on it.</p>	<b>4</b>
(b)	<p>4 marks from:</p> <ul style="list-style-type: none"> <li>• Can be used wherever you are (not any time)</li> <li>• Can send short messages / SMS</li> <li>• Can access web using WAP</li> <li>• Uses GPRS (General Packet Radio Service) to connect to network /for fast data transfer</li> <li>• Can access email</li> <li>• Accessories eg Alarms / reminder / calculator</li> <li>• Voice mail</li> <li>• Can take/send/receive pictures/video (has a camera)</li> <li>• To let clients know if going to be late / when arriving for an appointment</li> <li>• To ask someone at the office to confirm a detail</li> <li>• To send messages home if going to be late / when arriving/arrived</li> <li>• To find out details from web site</li> <li>• To access messages when away from home</li> <li>• Can send short advertising text messages</li> <li>• To show customers pictures of items they are interested in</li> <li>• For safety when travelling</li> </ul> <p>1 mark only for contacting people with no specific purpose Must be a use of <i>mobile</i> telephones, with at least the implication of being away from home.</p>	<b>4</b>
(c)	<p>4 marks from:</p> <ul style="list-style-type: none"> <li>• Computer programs</li> <li>• Using text, images, video/animation and sound ((1) for at least 2 of these, (2) for all four)</li> <li>• To give presentations to clients (about product)</li> <li>• To give information to many customers at the same time</li> <li>• To give interesting presentations</li> <li>• To take to exhibitions</li> <li>• To send to clients (on CD/DVD)</li> </ul>	<b>4</b>
		<b>100</b>





# Report on the Units June 2005

**Chief Examiner's Report**

The number of entries increased on previous sessions and work was seen across the entire mark range in both the external assessment unit, 4872 and the portfolio units, 4873 and 4874. It was clear that many Centres had prepared their candidates better for this session.

A continuing theme in Centre feedback is that many 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, the candidates will not gain the necessary mastery in use of application software to allow them access to the higher mark levels.

## 4872 - ICT Knowledge and Understanding (Written Examination)

### General Comments

*The majority of candidates attempted at least part of every question, with no evidence that they were short of time, although a significant minority did not attempt question 6. Overall performance of candidates covered the whole mark range.*

Whilst examiners will always do their best to read what candidates have written it is important for candidates to ensure that their answers are legible. Where candidates have specific problems with writing the centre should seek permission to use a scribe by submitting the appropriate form to the OCR Special Requirements Unit.

All questions this session were set in the context of *Coloured Crystal*, an imaginary company that manufactures decorative glassware. Candidates scoring the highest marks generally considered this context and tried to use it in their answers.

There was some evidence that fewer candidates gave one-word answers to questions in this session, which was pleasing. Where candidates are asked to consider advantages of particular applications of ICT they should avoid giving generalised statements such as 'easier', 'quicker', 'cheaper', 'more accurate' and 'more efficient' without any expansion. On their own these answers do not gain marks.

Candidates would benefit from being taught that the number of marks for a question indicates the number of points they need to give.

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

### Comments on Individual Questions

#### Q No)

- 1
- (a) Most candidates were able to identify italic and bold text but many chose the address, salutation or complimentary close for fully justified text. Some chose the complimentary close for a footer, whilst others failed to identify the whole footer. Some candidates lost marks by ambiguously referencing the text, although when they circled the text as instructed in the question this was not a problem.
  - (b) This question was well answered, with the most popular answer being thesaurus. 'Spelling checker' and 'dictionary' were most common incorrect answers.
  - (c) Most candidates were able to gain at least part marks for this question but some answers were too general, failing to identify the paragraph to be selected. Many candidates suggested copy and paste, rather than the more efficient cut and paste. A few candidates failed to read the question and wrote about how to use a thesaurus.
- 2
- (a) This was generally well answered
  - (b) Most candidates were able to correctly identify input and output devices. Common errors were to give RAM for (iii) and 'hard disk drive' for (iv) and (v)
  - (c) Many candidates were able to give an appropriate answer for (i), with USB the most common answer. Other candidates invented names such as 'series' or 'single'. Part (ii) was less well answered, with many over-vague answers such as 'it is quicker'.
  - (d) This was poorly answered, with the majority of candidates suggesting 'modem'.

### Report on the Units taken in June

- 3 Many candidates had clearly learnt about health and safety issues and were able to easily gain all 6 marks for this question. Some candidates failed to identify problems, giving vague answers such as 'staring at the screen all day'. Other candidates lost marks because they either repeated the same answer, eg 'take regular breaks', or gave answers that were too vague, eg 'comfortable chairs'. Deep Vein Thrombosis was suggested as a potential health problem by some candidates whilst others repeated their teachers' warnings about food and drink, coats etc without restricting their answers to health and safety issues relating to the use of computers.
- 4 (a) Most candidates were able to identify the correct spreadsheet cell, giving the answer of '4095' or '£4095'. A significant minority correctly read the amount as '£4 095 000'.  
(b) Many candidates gained one mark here for writing about a formatting option, although the majority thought that the numbers had been formatted as currency.  
(c) This was well answered by many candidates. It was pleasing to note that the majority tried to give a full description.  
(d) The majority of candidates were able to describe copying and pasting from the spreadsheet into the word-processed report, with some given credit for pasting and cropping a screen print.  
(e) This question allowed a minority of candidates to demonstrate their understanding of the fitness of different types of graph for different purposes. Whilst many candidates were able to gain 1 or 2 marks for straightforward observations, such as the fact that pie charts show percentages/proportions and that line charts show changes well, only a small number gained 4 marks or more. Many suggested particular chart styles 'look professional', without considering what 'professional' means
- 5 (a) Many candidates had learned suitable definitions of a computer virus and gained both marks. However, many candidates gave over-vague answers eg 'something' rather than 'a program' whilst others indicated that a virus destroys hardware or always 'deletes all the files on your computer'.  
(b) Whilst the majority of candidates gained at least 1 mark there were many vague or incomplete answers such as 'someone sends it to you' or 'the Internet' or 'email'  
(c) Most candidates recognised the role of anti-virus software, although some gave vague 'use an anti virus' or 'virus protection' without acknowledging that this is software. 'Firewall' was a common answer, with candidates not realising that it is only the anti-virus software that might be bundled with a firewall that gives the protection required. A number of candidates failed to specifically consider prevention of viruses, suggesting regular backups. A significant number of candidates were able to gain both of the marks for this question.
- 6 This was the most common question to be left totally blank, where candidates clearly did not recognise the terms CAD/CAM.  
(a) Most candidates were able to gain at least 1 mark for identifying CAD as computer aided design, or for describing what CAD is. Many gained both marks. Although many were also able to explain CAM, this term was less well known, with 'computer aided memory' the most common guess.  
(b) Many candidates gave over-vague answers to this question, eg 'quicker', 'more accurate' and 'cheaper'. Others considered only CAD rather than the combination of CAD/CAM. Some candidates suggested that no workers are needed and many answers showed no understanding that there can be mass production and electrical machines that are not computer controlled. The disadvantages of expense to install and the need for training were the most common correct answers.
- 7 (a) A significant minority of candidates were confused by the options in this question, giving answers such as 'autonumber query', 'default record' and 'field string'. More able candidates were not confused in this way, but this problem was taken into consideration when setting the lower grade boundaries for this paper. Many candidates gained the full 3 marks for this question.

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- (b) Many candidates gave the correct answer to this question, with others choosing 'customer number' and a significant minority choosing other fields, such as 'date payment received', showing that they do not know what a key field is.
  - (c) This question was very poorly answered. Some candidates suggested looking through the data manually, whilst others suggested making a new spreadsheet, database or table of those who hadn't paid. Some described carrying out a mailmerge. Although many candidates gained a mark for identifying the need for a query, the majority concentrated on choosing fields to print, failing to recognise the need for a search. Whilst some candidates gained a second mark for identifying the search criterion 'date payment received is null' it was rare to find a candidate who recognised the need for a second search on 'date goods sent'. Some candidates appear to think that validation rules create searches.
  - (d) Many candidates were able to suggest tables for customers and products, often describing these in sufficient detail to gain full marks for the question. However, many candidates suggested fields or reports rather than tables, whilst others described the table given in Fig.5. Some suggested two different tables of customer details, perhaps reflecting practice in their coursework, where splitting a table into two or more tables in a one-to-one relationship is common practice.
  - (e) Many candidates appeared to have learned the benefits of using a relational database and chose this question to give their learned answer. Only a very few candidates were able to consider the benefits of data entry forms, even though many will have created these in their coursework.
- 8
- (a) A significant number of candidates failed to read this question, suggesting answers to (b) or repeating pictures/graphics, which was given in the question. However, many candidates gained full marks for this question.
  - (b) This question was well answered by the majority of candidates, with many gaining full marks. Some failed to distinguish between items that are relevant to the home page and items that should be included somewhere on the website. Vague answers such as 'details about the company' were also common.
  - (c) It was surprising to see the number of candidates who suggested clip art or copying from the Internet as ways of creating electronic images of their products. Those who suggested scanning the products themselves rather than photographs of them had forgotten what sort of products Coloured Crystal makes.
  - (d) Although the majority of candidates understood that encryption is something to do with the security of credit card numbers, many did not show a good understanding and many appeared to be describing the function of passwords. A significant number thought that encryption was the hiding of characters typed in, describing characters being shown as \*s on the screen. A significant minority of candidates did not show any understanding of the role of encryption as a security measure, thinking that it is the method used to take money from bank accounts.
- 9
- (a) Whilst there were some good answers to this question, many candidates failed to distinguish the world wide web from the Internet. The best answers came from candidates who first described the world wide web and then went on to consider specifically the needs of sales staff visiting retail outlets all over Europe. These people would not be creating a company website, nor would they be looking for the best prices of components. The use of email was only given credit if candidates showed that they were thinking of web-based email access, allowing access when away from home/office.
  - (b) Many candidates gained 4 easy marks by describing features of mobile phones that could be used by the sales staff. Again, the best answers came from candidates who considered specifically the needs of the people identified in the question. Some wrote about the use of telephones in general, without recognising the specific needs that are met by mobile phones.

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- (c) Whilst some candidates demonstrated knowledge of multimedia, gaining 2 easy marks for identifying it as the use of text, graphics, animation and sound, others continued to think about mobile phones, or wrote generally about video.

## **Principal Moderator's Report – 4873 & 4874**

### General

Many Centres are still not using the unit recording sheets correctly. It is important to fill in the candidate and Centre details, correctly add up the marks and transfer the marks to the MS1 sheets correctly. A number of Centres do not complete the teacher comment section or reference the pages on which candidates have achieved criteria. These sections are a great aid to moderators in helping them see why a particular mark has been awarded. In some instances the commentary provides sufficient support to prevent adjustment of marks.

There is evidence to suggest that some Centres are still 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, the candidates will not gain the necessary mastery in use of application software to allow them access to the higher mark levels.

Many Centres now send portfolios hole punched and treasury tagged. This is by far the best way to present work for moderation. Bulky ring binders and plastic pockets should be avoided.

It is pleasing to note that most Centres took notice of the advice given in the Moderator Reports from previous sessions. Although it was apparent that a few Centres have repeated the same errors that were identified last year.

A large number of Centres have taken part in OCR training for this specification but there are some Centres who would gain a more complete understanding of the requirements and thus equip their candidates better to succeed if they were to attend training.

### 4873

Candidates studied a wide range of organisations. In most Centres candidates produced systems based on the use of database or spreadsheet software. These gave plenty of scope to achieve high marks. In some Centres candidates used web or slide based software to produce a display system. Whilst this is acceptable it does limit candidate access to marks for testing and producing viable user guides. It would be good to see examples of control systems.

#### Strand a

Some Centres gave marks to candidates who only completed one organisation study. There is a minimum requirement for one mark to give at least one use of ICT by each organisation, along with the information requirements and the hardware and application software for at least one system. Once again software was covered well but many candidates gave scanty details about the hardware used. In the top band candidates must provide cogent explanations of why the hardware meets the organisation's needs

#### Strand b

There is a minimum requirement to study two documents from each organisation. Some Centres allowed marks where documents from only one organisation were reviewed or where less than four documents had been used. Candidates who did well reviewed business letters, reports and web sites so that they could draw conclusions and use the information to help them create suitable documents in strand c.

#### Strand c

Some Centres continue to follow a proprietary scheme rather than the OCR specification and produce invoices using spreadsheet software for this strand. The requirement is for one document using each of word processing, publication and presentation software. The quality of documents produced by candidates continues to be a problem. A business card produced

### *Report on the Units taken in June*

using a software template 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 business report 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 normal font size and style.

#### Strand d

More candidates produced dfd's this session but there were still examples of Centres giving high marks where candidates had only used system flow charts. The study of information flow can gain up to three marks in band one. For marks in band two candidates must produce a dfd using symbols for entities, processes and data stores and linked by arrows indicating the direction of data flow. A complex diagram involving more than one process would gain five marks whilst the addition of some accurate analysis or description would lead to full marks.

#### Strand e

Many candidates are vague when giving the purpose of their design. Unless they clearly state the user requirements they cannot show that they have completed implementation satisfactorily, nor test outcomes. It is not feasible to produce a user guide for a system which is incomplete or has no output. It is critical therefore, that teachers supervise candidates at the design stage to ensure they fully document a system which they are capable of completing. A detailed testing plan ensures access to the highest mark band.

#### Strand f

Many candidates used annotated screenshots 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. If candidates are implementing a system using database or spreadsheet software they should use sufficient records to be able to test the system works efficiently. I would regard twenty records as the minimum needed.

#### Strand g

Candidates can gain marks for testing input against normal, abnormal and extreme conditions, for testing that the system produces the required output and for evaluating their system and suggesting improvements. Few candidates did all three of these.

#### Strand h

Some candidates included notes on setting up searches or reports which should have been part of their implementation. Candidates who achieved best 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

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

#### Strand a

Some Centres still demonstrate misunderstanding when dealing with this strand. 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.



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### Strand b

Far too many candidates carried out purposeless searches without coming to any conclusions in their survey. Many showed they could sort, search and create reports without reference to why. Candidates who achieved well started with clear aims or hypotheses and this focus allowed them to produce a report of meaningful findings.

In future sessions only one to many relationships will be accepted as evidence that candidates have set up related tables.

### Strand c

Candidates need to use a range of formulas using more than one operator and functions to move into middle band marks. A print out showing these formulas and functions would evidence their use. Some candidates used spreadsheets merely as a tool to produce charts, whilst others produced coherent reports combining sections of their tables of data with charts and text.

### Strand d

Many candidates produced good work in this strand using an annotated handout printout 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. A few Centres gave high marks when candidates had used a limited range of media, or had not created their own media. Clip art sounds and animations do not satisfy the criteria for high band marks.

### Strand e

In some Centres candidates did not clearly identify groups or individuals affected by developments in ICT but wrote in general terms. Candidates must comment on at least two groups or individuals in at least two of the specified areas to gain any marks. Fuller explanations covering more groups or individuals lead to higher marks. Bulleted lists or brief sentences in a table structure are unlikely to reach the higher mark band.

### Strand f

Many candidates identified and described benefits and needs with fewer going on to analyse them. A need is defined as satisfying a basic requirement whilst a benefit is an advantage of meeting these requirements.

### Strand g

Many candidates wrote about 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  
in Applied Information and Communication Technology (Double Award) (1494)  
June 2005 Assessment Session**

**Unit Threshold Marks**

Unit		Maximum Mark	a*	a	b	C	d	e	f	g	u
4872	<b>Raw</b>	<b>100</b>	<b>83</b>	<b>73</b>	<b>63</b>	<b>54</b>	<b>45</b>	<b>37</b>	<b>29</b>	<b>21</b>	<b>0</b>
	<b>UMS</b>	<b>100</b>	<b>90</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>20</b>
4873	<b>Raw</b>	<b>50</b>	<b>46</b>	<b>41</b>	<b>36</b>	<b>31</b>	<b>26</b>	<b>21</b>	<b>16</b>	<b>11</b>	<b>0</b>
	<b>UMS</b>	<b>100</b>	<b>90</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>20</b>
4874	<b>Raw</b>	<b>50</b>	<b>46</b>	<b>41</b>	<b>36</b>	<b>31</b>	<b>26</b>	<b>21</b>	<b>16</b>	<b>11</b>	<b>0</b>
	<b>UMS</b>	<b>100</b>	<b>90</b>	<b>80</b>	<b>70</b>	<b>60</b>	<b>50</b>	<b>40</b>	<b>30</b>	<b>20</b>	<b>0</b>

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	<b>300</b>	<b>270</b>	<b>240</b>	<b>210</b>	<b>180</b>	<b>150</b>	<b>120</b>	<b>90</b>	<b>60</b>	<b>0</b>

**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	<b>0.5</b>	<b>4.5</b>	<b>17.2</b>	<b>39.2</b>	<b>58.8</b>	<b>72.8</b>	<b>84.4</b>	<b>93.8</b>	<b>100</b>	<b>12107</b>

*Report on the Units taken in June*

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