

Information & Communication Technology A

General Certificate of Secondary Education **GCSE 1994**

General Certificate of Secondary Education (Short Course) **GCSE 1094**

Combined Mark Schemes And Report on the Units

January 2006

1994/1094/MS/R/06J

OCR (Oxford, Cambridge and RSA Examinations) is a unitary awarding body, established by the University of Cambridge Local Examinations Syndicate and the RSA Examinations Board in January 1998. OCR provides a full range of GCSE, A level, GNVQ, Key Skills and other qualifications for schools and colleges in the United Kingdom, including those previously provided by MEG and OCEAC. It is also responsible for developing new syllabuses to meet national requirements and the needs of students and teachers.

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.

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

© OCR 2006

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annersley
NOTTINGHAM
NG15 0DL

Telephone: 0870 870 6622
Facsimile: 0870 870 6621
E-mail: publications@ocr.org.uk

CONTENTS

General Certificate of Secondary Education ICT A (1994)

General Certificate of Secondary Education Short Course ICT A (1094)

MARK SCHEMES FOR THE UNITS

Unit	Content	Page
2357/01	Paper 1: Foundation	1
2357/02	Paper 1: Higher	9
2359/01	Paper 2: Foundation	19
2359/02	Paper 2: Higher	25

REPORTS ON THE UNITS

Unit	Content	Page
*	Chief Examiner's Report	34
2357/01	Paper 1: Foundation	35
2357/02	Paper 1: Higher	38
2358	Coursework Projects	41
2359/01	Paper 2: Foundation	45
2359/02	Paper 2: Higher	47
2360	Project 2	49
*	Grade Thresholds	51

**Mark Scheme 2357/01
January 2006**

General Points about the application of the Mark Scheme

Where there is only one answer given this is the only answer available.

If a candidate gives more answers than asked for then every answer over the specified number is ignored – only the first answers in the lists up to the specified number of answers is to be marked. For questions requiring a tick in a row of boxes eg in an answer table, where a candidate gives more than one tick per row, then no marks are awarded for that row. Similarly, if a candidate enters more than two ticks in a column, then deduct one mark per extra tick, down to zero.

Single word answers are not normally given credit.

Vague answers such as “quicker, easier” are not credited unless there is a clear context from the question, an explanation to accompany the word or the candidate’s answer puts it into context.

Trade names are not to be given credit unless accompanied by a description of their function e.g. ‘MS Word’ would gain no credit but ‘the word processor MS Word’ would be credited.

Mark Scheme

Question	Answer	Mark												
1	<p><i>Should be as follows:</i></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Task</th> <th style="text-align: left;">Device</th> </tr> </thead> <tbody> <tr> <td>Playing music</td> <td>Speakers</td> </tr> <tr> <td>Painting a car</td> <td>Robot arm</td> </tr> <tr> <td>High quality printing</td> <td>(Laser) printer</td> </tr> </tbody> </table>	Task	Device	Playing music	Speakers	Painting a car	Robot arm	High quality printing	(Laser) printer	[3]				
Task	Device													
Playing music	Speakers													
Painting a car	Robot arm													
High quality printing	(Laser) printer													
2	Processor/processing/CPU/process.	[1]												
3	<p><i>Ticks should be as follows:</i></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Device</th> <th style="text-align: center;">Tick (✓)</th> </tr> </thead> <tbody> <tr> <td>Joystick</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Magnetic stripe reader</td> <td></td> </tr> <tr> <td>Scanner</td> <td></td> </tr> <tr> <td>Temperature sensor</td> <td></td> </tr> <tr> <td>Tracker ball</td> <td style="text-align: center;">✓</td> </tr> </tbody> </table>	Device	Tick (✓)	Joystick	✓	Magnetic stripe reader		Scanner		Temperature sensor		Tracker ball	✓	[2]
Device	Tick (✓)													
Joystick	✓													
Magnetic stripe reader														
Scanner														
Temperature sensor														
Tracker ball	✓													

Question	Answer	Mark
4 (a)	Microphone.	[1]
(b)	Scanner.	[1]
(c)	<p>One from:</p> <ul style="list-style-type: none"> • Copyright. • Illegal. • Does not have permission. • Does not own the image. 	[1]
(d)	Ticks should be as follows:	

Homework task	Database (✓)	Graphics package (✓)	Word Processor (✓)
Storing details of the places visited	✓		
Typing a report on the trip			✓
Editing the pictures of the trip		✓	

[3]

(e)	<p>One from:</p> <ul style="list-style-type: none"> • Virus. • File corrupt. • File moved. • File deleted. • Access rights/permissions changed. • Media removed/no longer available. • Software removed/changed. • Forgot password. 	[1]
-----	--	-----

5 **Ticks should be as follows:**

Possible Health Risk	The health risk can be reduced by:		
	using a wrist rest (✓)	using a high resolution monitor (✓)	using an adjustable chair (✓)
Eye strain		✓	
Neck and back problems			✓
Repetitive Strain Injuries (RSI)	✓		

[3]

Question	Answer	Mark
6	<p>Two from:</p> <ul style="list-style-type: none">• Do not run.• Do not drink/eat.• Do not disturb wiring.• Do not dismantle equipment.• Do not block gangways/walkways/pathways.• Do not climb/move computer equipment.	[2]
7	<p>(a) Three from:</p> <ul style="list-style-type: none">• Capitalised first letters.• Sans serif/different font used/font changed.• Larger font.• Emboldened.	[3]
	<p>(b) Two from:</p> <ul style="list-style-type: none">• Made larger/size increase/change/zoom.• Cropped/trimmed/cut off.• Flipped/mirror/reflect.• Centralised	[2]
	<p>(c) Two from:</p> <ul style="list-style-type: none">• Highlight/select text.• Copy/cut/export/save text.• Paste/import/load text.	[2]
8	<p>Two from:</p> <ul style="list-style-type: none">• (Use the) Internet/World Wide Web/(Use a) search engine/type in a known URL/address (on Scotland)/chat rooms.• Email friends/experts.• (Use a) CD-ROM/electronic encyclopaedia.• (Send a) fax.• (Use a WP to) write a letter.• GPS.	[2]
9	<p>Three from:</p> <ul style="list-style-type: none">• Sending/receiving abusive messages.• Talking to inappropriate persons.• Personal details being revealed to others.• Misrepresentation.• Exploitation in e.g. selling items/services.• Increased cost of phone bills/phone always engaged.• Waste of time.• Can get a virus/can be hacked into	[3]

Question	Answer	Mark								
10 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • Program/application/software. • Deletes/damages/corrupts/alters/amends files/causes computer to crash. • Copies itself/replicates itself/sends copies to other computers. <p>Do not accept damages the computer (hardware). Do not accept slows the computer Do not accept where the virus comes from</p>	[2]								
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Keep/use a backup/copy. • On removable/other media, eg floppy disk/flash memory • Store backup/copy away from original. • Use antivirus software • Keep antivirus software up to date <p>Do not accept CD ROM Do not accept well maintained Do not accept firewall</p>	[2]								
11 (a)	<p>Letters should be as follows:</p> <table border="1"> <thead> <tr> <th>Event</th> <th>This happens at (A, B or C)</th> </tr> </thead> <tbody> <tr> <td>Read the room temperature</td> <td>A</td> </tr> <tr> <td>The heating is switched off</td> <td>C</td> </tr> <tr> <td>The heating is switched on</td> <td>B</td> </tr> </tbody> </table>	Event	This happens at (A, B or C)	Read the room temperature	A	The heating is switched off	C	The heating is switched on	B	[3]
Event	This happens at (A, B or C)									
Read the room temperature	A									
The heating is switched off	C									
The heating is switched on	B									
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Use less fuel (than conventional devices)/lower fuel costs. • Have heating working/required temperature for when owner arrives home/accurate. • Allows greater/flexible control over household temperature. • Smaller control units. • Automatic/no human intervention/programmable • Remote control • More reliable than mechanical components/rarely goes wrong. <p>Do not accept cheaper/costs less, if unqualified.</p>	[2]								
12	<p>Two from:</p> <ul style="list-style-type: none"> • Video/Animation/Movement/slide shows. • Interaction. • Sound. • Searching facilities. • Multimedia. • hyperlinks 	[2]								

Question	Answer	Mark
13 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • (Automatic) calculation(s). • (Use of) formulae. • "What if" scenarios/editing. • Use of graphs/tables. • Currency calculations/formatting. • Goal seeking. • Conditional formatting. 	[2]
(b)	<p>One from:</p> <ul style="list-style-type: none"> • Visual check. <p>Double entry.</p>	[1]
(c)	<p>Two from:</p> <ul style="list-style-type: none"> • In a graph/charts. • In a table. • Summarised/explained in text. • Using a contrasting/colour/font/style/underline 	[2]
14 (a)	<p>Points and expansions from:</p> <ul style="list-style-type: none"> • Use a credit/debit card so no need for cash • Magnetic stripe carries data about account • Using a card/stripe reader to swipe a card to read the data in a magnetic stripe • To check an account via a telecommunications system • Using bar codes on goods/produce using a barcode reader/scanner/touch screen/overlay keyboard codes scanned into a computer system use of codes to lookup details of goods use of codes to record details of goods sold • To produce an itemised receipt with automatically calculated totals 	

Do not accept E-commerce

Question to be marked as a graded response.

Marks to be awarded as follows:

	1 point	2 or more points
0 expansions	1	2
1 expansion	2	3
2 or more expansions	3	4

[4]

**Mark Scheme 2357/02
January 2006**

General Points about the application of the Mark Scheme

Where there is only one answer given this is the only answer available.

If a candidate gives more answers than asked for then every answer over the specified number is ignored – only the first answers in the lists up to the specified number of answers is to be marked. For questions requiring a tick in a row of boxes eg in an answer table, where a candidate gives more than one tick per row, then no marks are awarded for that row. Similarly, if a candidate enters more than two ticks in a column, then deduct one mark per extra tick, down to zero.

Single word answers are not normally given credit.

Vague answers such as “quicker, easier” are not credited unless there is a clear context from the question, an explanation to accompany the word or the candidate’s answer puts it into context.

Trade names are not to be given credit unless accompanied by a description of their function e.g. 'MS Word' would gain no credit but 'the word processor MS Word' would be credited.

Mark Scheme

Question	Answer	Mark
1 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • Program/application/software. • Deletes/damages/corrupts/alters/amends files/causes computer to crash. • Copies itself/replicates itself/sends copies to other computers. <p>Do not accept damages the computer (hardware). Do not accept slows the computer. Do not accept where the virus comes from.</p>	[2]
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Keep/use a backup/copy. • On removable/other media, eg floppy disk/flash memory • Store backup/copy away from original. • Use antivirus software. • Keep antivirus software up to date. <p>Do not accept CD ROM Do not accept well maintained Do not accept firewall</p>	[2]

Question	Answer	Mark								
2 (a)	Letters should be as follows:									
	<table border="1"> <thead> <tr> <th>Event</th> <th>This happens at (A, B or C)</th> </tr> </thead> <tbody> <tr> <td>The room temperature is read</td> <td>A</td> </tr> <tr> <td>The heating is switched off</td> <td>C</td> </tr> <tr> <td>The heating is switched on</td> <td>B</td> </tr> </tbody> </table>	Event	This happens at (A, B or C)	The room temperature is read	A	The heating is switched off	C	The heating is switched on	B	[3]
Event	This happens at (A, B or C)									
The room temperature is read	A									
The heating is switched off	C									
The heating is switched on	B									
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Use less fuel (than conventional devices)/lower fuel costs. • Have heating working/required temperature for when owner arrives home. • Allows greater/flexible/accurate control over household temperature. • Smaller control units. • Automatic/no human intervention/programmable • Remote control • More reliable than mechanical components/rarely goes wrong. <p>Do not accept cheaper/costs less, if unqualified.</p>	[2]								
3	<p>Two from:</p> <ul style="list-style-type: none"> • Video/animation/movement/slide shows. • Interaction. • Sound. • Searching facilities. • Multimedia. • Hyperlinks. 	[2]								
4 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • (Automatic) calculation(s). • (Use of) formulae. • "What if" scenarios/editting. • Use of graphs/tables. • Currency calculations/formatting. • Goal seeking. • Conditional formatting. 	[2]								
(b)	<p>One from:</p> <ul style="list-style-type: none"> • Visual check. • Double entry. 	[1]								
(c)	<p>Two from:</p> <ul style="list-style-type: none"> • In a graph/charts. • In a table. • Summarised/explained in text. • Using a contrasting colour/font/style/underline. 	[2]								

Question	Answer	Mark
5 (a)	<p>Points and expansions from:</p> <ul style="list-style-type: none"> • Use a credit/debit/loyalty/store card so no need for cash • Magnetic stripe carries data about account • Using a card/stripe reader to swipe a card to read the data in a magnetic stripe • To check an account via a telecommunications system • Using bar codes on goods/produce using a barcode reader/scanner/touch screen/overlay keyboard codes scanned into a computer system. use of codes to lookup details of goods use of codes to record details of goods sold • To produce an itemised receipt with automatically calculated totals • EPOS terminals use of credit/debit/loyalty/store card 	

Do not accept E-commerce

Question to be marked as a graded response.

Marks to be awarded as follows:

	1 point	2 or more points
0 expansions	1	2
1 expansion	2	3
2 or more expansions	3	4

[4]

Question	Answer	Mark
(b)	<p>Points and expansions from:</p> <ul style="list-style-type: none"> • Barcodes used items scanned by reader. to count stock. as sold. • Electronic tagging of items or security. sound alarm if not paid for. • Stock details kept in database/spreadsheet for storing details. for searching/sorting of items. print stock reports. • Automatic re-ordering use of modem/Internet. direct to warehouse. • Automatic updating when items are sold. when new stock arrives. 	

Question to be marked as a graded response.

Marks to be awarded as follows:

	1 point	2 or more points
0 expansions	1	2
1 expansion	2	3
2 or more expansions	3	4

[4]

6	(a)	(i)	<p>Two from:</p> <ul style="list-style-type: none"> • Numeric keypad. • Enter codes by hand/manually/speaking/(RFI) tagging. • Plastic/swipe card. • Magnetic stripe/barcode. 	[2]
		(ii)	<p>One from:</p> <ul style="list-style-type: none"> • Code collected quickly/no delay to driver. • Reliable data/code collection. • Code collected in all weathers. • Restricts access to those who know the code/security. • No need to remember codes. 	[1]
	(b)		<p>Three from:</p> <ul style="list-style-type: none"> • Edit number of spaces • Notify the computer system that there is a car going in/out. • Method of triggering e.g. sensor/intercom/buttons. • On entry subtract one from space • On exit add one to space • Calculate total. 	[3]

Question	Answer	Mark
(b)	(i) Checking the data is reasonable.	[1]
	(ii) Two from: <ul style="list-style-type: none"> • Type – data in correct form. • Range – data within set limits. • Presence – data is actually entered. • Length – number of characters. 	[2]
(c)	One from: <ul style="list-style-type: none"> • The data is not unique. • Could have the same last name. 	[1]
9	Points and expansions from: <ul style="list-style-type: none"> • Insert/import photographs for display. • Add captions to the photographs to explain add notes. • Use dissolve techniques to add interest. • Use animation to illustrate/add information. • Use moving text to illustrate/add information. • Use bullet points to illustrate/add information. • Use different font sizes for titles etc. • Use different fonts to attract attention/highlight text. • Use coloured backgrounds to make images stand out. • Use of sound for background • Make graphs/charts from collected data more accessible • Print handouts as a record annotation during talk • Coloured text to make it stand out • Hyperlinks to other resources 	

Question**Answer****Mark**

Question to be marked as a graded response.

Marks to be awarded as follows:

	1 point	2 points	3 points	4 or more points
No expansions	1	2	3	4
1 expansion	2	3	4	5
2 expansions	3	4	5	6
3 expansions	4	5	6	7
4 or more expansions	5	6	7	8

Total 60 marks [8]

**Mark Scheme 2359/01
January 2006**

General Points about the application of the Mark Scheme

Where there is only one answer given this is the only answer available.

Where a candidate has to give a specific number of answers there should be no more answers than that asked for in the question. If there are more than asked for then ONLY the first answers, up to the asked for number, are marked.

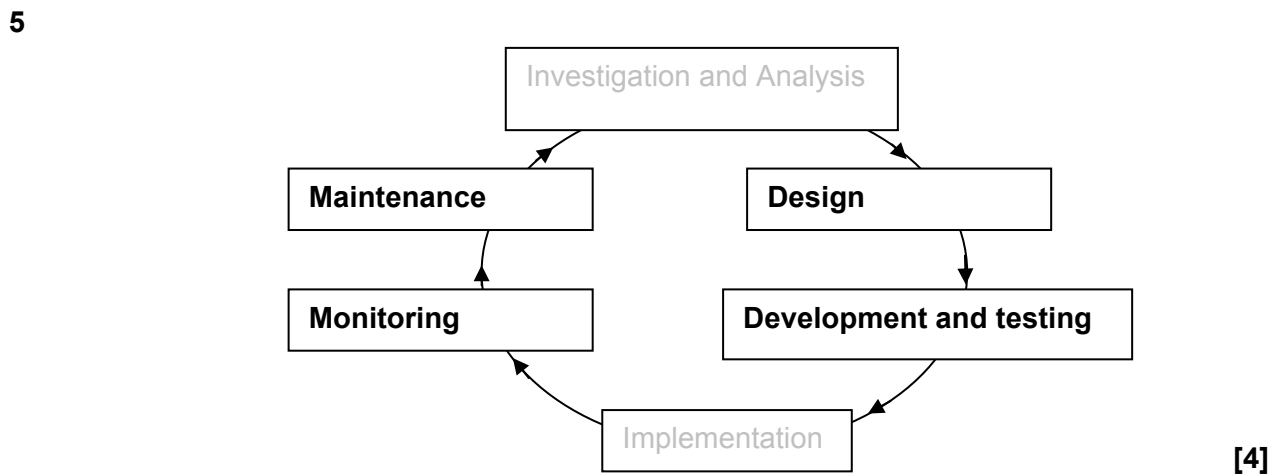
Where a candidate is asked to choose a specific number of answers from a list/table mark all answers given and then deduct a mark for each answer given above the requested number. (Do NOT, however, go below 0!)

No trade names are to be given credit unless accompanied by a description of what they do e.g. 'MS Word' would gain no credit but 'the word processor MS Word' would.

Mark Scheme

Question	Answer	Mark								
1	Programming language Database Operating system	[3]								
2	A GUI uses icons DVD players use microprocessors MICR is used to read bar codes OCR is used to recognise scanned text ROM loses its contents when the computer is switched off	✓ ✓ ✗ ✓ ✗ [5]								
3 (a)	<p>One mark for each correct link.</p> <table border="0"> <thead> <tr> <th>Medium</th> <th>Storage capacity</th> </tr> </thead> <tbody> <tr> <td>CD</td> <td>1.44 Mb</td> </tr> <tr> <td>DVD</td> <td>650 Mb</td> </tr> <tr> <td>Floppy disk</td> <td>4.7 Gb</td> </tr> </tbody> </table>	Medium	Storage capacity	CD	1.44 Mb	DVD	650 Mb	Floppy disk	4.7 Gb	[3]
Medium	Storage capacity									
CD	1.44 Mb									
DVD	650 Mb									
Floppy disk	4.7 Gb									
3 (b)	<p>Two from:</p> <ul style="list-style-type: none"> Free up/save space on HDD Portability of files For backups/security (in case of damage to HDD) May not need a computer to use some of the files (CD-RW, DVD) Privacy 	[2]								

Question	Answer	Mark
4	<p>Input method</p> <p>Bar-code readers</p> <p>Graphics tablets</p> <p>OMR</p> <p>Touch Screens</p> <p>Everyday use</p> <p>In fast food restaurants</p> <p>In designers offices</p> <p>At supermarket checkouts</p> <p>In school registration systems</p>	[4]



- 6
- Two from:**
- Quicker data entry/fewer keystrokes
 - Fewer data entry errors
 - Quicker to check for errors
 - Use less space on disk
 - Quicker search/access time
 - Easier to validate
- DO NOT** accept anything to do with security or secrecy or privacy
- [2]

- 7
- Three from:**
- (Making data in a computer system) unintelligible
 - (by) scrambling (the data)
 - Mention of (decryption) key
 - Provides security/privacy (for data stored /transmitted between computers)
- [3]

Question	Answer	Mark
8	<p>(a) Four from:</p> <ul style="list-style-type: none"> • User name • ...identifies particular user to the system • Password • ...gives access for particular user to the system • Hierarchical access • ...gives access to only predefined areas of the system (for particular users) • File password • ...to access a particular file 	[4]
	<p>(b) Two from:</p> <ul style="list-style-type: none"> • To control access to content • To enable local sharing of resources • To allow internal/local e-mail • Speed up access to local resources • To store relevant information only <p>Answers must imply local/internal</p> <p>DO NOT accept "Student sends homework / work to teacher"</p>	[2]
	<p>(c) Two from:</p> <ul style="list-style-type: none"> • To give access to world-wide range of content • To utilise external/world-wide e-mail • To give access to world-wide user groups/bulletin boards/to allow access to world-wide resources for projects • You can gain access wherever you are • To gain access to the www • To share with other teachers across the world <p>Answers must imply external/worldwide use</p> <p>"Student sends homework to teacher" = 1 ('work' on own = 0)</p>	[2]
9	<p>(a) Four from:</p> <ul style="list-style-type: none"> • Beneficial to partially sighted/blind people • ...can listen to output • Beneficial to deaf people • ...can see output – animation/sign language • Beneficial to physically disabled people • ...no need to hold brochure/turn pages • Beneficial to people with learning difficulties • ...as the content possibly more easily understood (because of multimedia format) • More interesting • Quicker to access information/linked pages 	[4]

Question	Answer	Mark	
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Need appropriate, compatible hardware/software • Need computer skills • May be difficult to place in computer depending on disability • No visible information unless printed/copied unless computer is on – e.g. telephone numbers • Need ability to cope with on screen information • May find multimedia format distracting 	[2]	
10	<p>Six from:</p> <ul style="list-style-type: none"> • correct shape with cabling for each • correct name (star or bus/line) for each • correctly labelled workstations and server for star network • correctly labelled workstations for bus <p>One mark for correct name, one mark for correct shape and one mark for correct labelling.</p>	[6]	
11 (a)	<p>Five from:</p> <ul style="list-style-type: none"> • Create database/file of customer details • Write outline/template/basic/standard letter • Attach the database/file of customer details to the document • Insert field names/tags/placeholder where content will change • Merge document and database/file contents • Merged document sent to either screen (for checking) or to printer for posting 	[5]	
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Less likely to miss sending details (to some customers) • Less likely to make mistakes in letter (as most is common to all) • Far quicker, (once data is recorded) to send many letters (than to type each one individually) • The database can be used over and over again (to personalise future letters, again, saving time) • People are more likely to read personalized letters • Cheaper with good reason 	[2]	
12	<p>When a large number of people need to be consulted.</p> <p>To confirm what actually happens</p> <p>When a few key personnel need to be consulted.</p>	<p>Questionnaire</p> <p>Observation</p> <p>Interview</p>	[3]

Question	Answer	Mark
13 (a)	<p>Two from:</p> <ul style="list-style-type: none">• 'Instant' sharing of event• Pictures may be stored for later printing• Less need to carry separate camera around• May be more acceptable than talking on mobile in public places• No need to get pictures developed• No need to print pictures• Quicker/faster when compared with alternative• Cheaper/free if you use Bluetooth	[2]
(b)	<p>Two from:</p> <ul style="list-style-type: none">• Distracts from involvement in the event if (constantly) taking pictures• Costly (if overdone)• May accidentally share the wrong picture/with the wrong person• Pictures not really good quality (so may need separate camera)• Some establishments ban use of mobile phones (could be risky)• Invasion of privacy• Limited storage space for pictures• Hard copy difficult to obtain	[2]

Total 60 marks

**Mark Scheme 2359/02
January 2006**

General Points about the application of the Mark Scheme

Where there is only one answer given this is the only answer available.

Where a candidate has to give a specific number of answers there should be no more answers than that asked for in the question. If there are more than asked for then ONLY the first answers, up to the asked for number, are marked.

Where a candidate is asked to choose a specific number of answers from a list/table mark all answers given and then deduct a mark for each answer given above the requested number. (Do NOT, however, go below 0!)

No trade names are to be given credit unless accompanied by a description of what they do e.g. 'MS Word' would gain no credit but 'the word processor MS Word' would.

Mark Scheme

Question	Answer	Mark
1 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • To control access to content • To enable local sharing of resources • To allow internal/local e-mail • Speed up access to local resources • To store relevant information only <p>Answers must imply local/internal</p> <p>DO NOT accept "Student sends homework / work to teacher"</p>	[2]
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • To give access to world-wide range of content • To utilise external/world-wide e-mail • To give access to world-wide user groups/bulletin boards/to allow access to world-wide resources for projects • You can gain access wherever you are • To gain access to the www • To share with other teachers across the world <p>Answers must imply external/worldwide use "Student sends homework to teacher" = 1 ('work' on own = 0)</p>	[2]
2 (a)	<p>Four from:</p> <ul style="list-style-type: none"> • Beneficial to partially sighted/blind people • ...can listen to output • Beneficial to deaf people • ...can see output – animation/sign language • Beneficial to physically disabled people • ...no need to hold brochure/turn pages • Beneficial to people with learning difficulties • ...as the content possibly more easily understood (because of multimedia format) • More interesting • Quicker to access information/linked pages 	[4]

Question	Answer	Mark
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Need appropriate, compatible hardware/software • Need computer skills • May be difficult to place in computer depending on disability • No visible information unless printed/copied unless computer is on – e.g. telephone numbers • Need ability to cope with on screen information • May find multimedia format distracting 	[2]
3 (a)	<p>Five from:</p> <ul style="list-style-type: none"> • Create database/file of customer details • Write outline/template/basic/standard letter • Attach the database/file of customer details to the document • Insert field names/tags/placeholder where content will change • Merge document and database/file contents • Merged document sent to either screen (for checking) or to printer for posting 	[5]
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Less likely to miss sending details (to some customers) • Less likely to make mistakes in letter (as most is common to all) • Far quicker, (once data is recorded) to send many letters (than to type each one individually) • The database can be used over and over again (to personalise future letters, again, saving time) • People are more likely to read personalized letters • Cheaper with good reason 	[2]
4	<p>When a large number of people need to be consulted. Questionnaire</p> <p>To confirm what actually happens Observation</p> <p>When a few key personnel need to be consulted. Interview</p>	[3]
5	<p>Six from:</p> <ul style="list-style-type: none"> • correct shape with cabling for each • correct name (star or bus/line) for each • correctly labelled workstations and server for star network • correctly labelled workstations for bus <p>One mark for correct name, one mark for correct shape and one mark for correct labelling.</p>	[6]

Question	Answer	Mark											
6	<p>(a) Two from:</p> <ul style="list-style-type: none"> • 'Instant' sharing of event • Pictures may be stored for later printing • Less need to carry separate camera around • May be more acceptable than talking on mobile in public places • No need to get pictures developed • No need to print pictures • Quicker/faster when compared with alternative • Cheaper/free if you use Bluetooth 	[2]											
	<p>(b) Two from:</p> <ul style="list-style-type: none"> • Distracts from involvement in the event if (constantly) taking pictures • Costly (if overdone) • May accidentally share the wrong picture/with the wrong person • Pictures not really good quality (so may need separate camera) • Some establishments ban use of mobile phones (could be risky) • Invasion of privacy • Limited storage space for pictures • Hard copy difficult to obtain 	[2]											
7	<p>(a) Points: Name. Address. DOB Data about previous dentist Control characters</p>	<p>Expansions: Different areas for forename/surname. Different areas for house number/street name. Additional area for city/Postcode. Dividers for day/month/year. With appropriate character dividers to ease entry and fewer errors OR previous dentists name /address; last visited dentist; never visited dentist etc. At least three – next page, previous page, edit, add, delete, etc</p> <p>Marks:</p> <table border="0"> <tr> <td>4 points or <4 point and 1 expansion</td> <td style="text-align: right;">1</td> </tr> <tr> <td>4 points + 1 expansion or <4 point and 2 exp</td> <td style="text-align: right;">2</td> </tr> <tr> <td>4 points + 2 expansions or <4 point and 3 exp</td> <td style="text-align: right;">3</td> </tr> <tr> <td>4 points + 3 expansions or <4 point and 4 exp</td> <td style="text-align: right;">4</td> </tr> <tr> <td>4 points + 4 expansions</td> <td style="text-align: right;">5</td> </tr> </table>	4 points or <4 point and 1 expansion	1	4 points + 1 expansion or <4 point and 2 exp	2	4 points + 2 expansions or <4 point and 3 exp	3	4 points + 3 expansions or <4 point and 4 exp	4	4 points + 4 expansions	5	[5]
4 points or <4 point and 1 expansion	1												
4 points + 1 expansion or <4 point and 2 exp	2												
4 points + 2 expansions or <4 point and 3 exp	3												
4 points + 3 expansions or <4 point and 4 exp	4												
4 points + 4 expansions	5												

Question	Answer	Mark
(b)	<p>ONE mark for each of the three principles from:</p> <ol style="list-style-type: none"> 1. Fairly / and lawfully processed/obtained 2. Only used / or disclosed for specified (notified) purpose 3. Adequate, / relevant / and not excessive 4. Accurate / and kept up to date 5. Kept no longer than necessary 6. Access must be provided to check and correct data held / right of explanation when computer makes automated decision based on the data held 7. Must be held securely (to prevent unauthorised access or changing) 8. Not to be transferred outside of EC (except to countries with adequate DP legislation.) 9. The dentist needs to register (with the IC) 	[Max 3]
	<p>TWO marks for each explanation which includes:</p> <ol style="list-style-type: none"> 1. If data is obtained unfairly individuals may have no knowledge that the data has been collected [1] / if collected unlawfully then data subjects may be subject to harassment from the holders of the unlawfully obtained data. [1] 2. If the use is not specified then any use could be made of the data [1] which may mean the data subjects give data willingly for a purpose and then be subjected to a much wider use of the data. [1] 3. If more data than is necessary for a particular purpose is collected then the data may be used for things [1] the data subject would not have agreed to. [1] 4. Inaccurate data / out-of-date data may lead to incorrect decisions being made [1] which rely on the held data. [1] 5. If kept longer than for the specified purpose then the data may be open to abuse [1] and increased security breach/risks. [1] 6. This allows the data subject to confirm that the data is accurate and reassures them [1] that decisions made dependent upon the held data are made on correct data. [1] 7. As much data held may be of a confidential nature [1] any access by unauthorised personnel could lead to inappropriate use of the data by them. [1] 8. None of the safeguards provided by the DPA's would apply [1] and the data subject suffer the consequences for which the act was designed to protect. [1] 9. If there is no register over who holds data then no checks can be applied to data holder [1] so everyone can establish who has data about them [1] 	[Max 6]

Question	Answer	Mark
8	(a) Validation	[1]
	(b) Three from: <ul style="list-style-type: none"> • (When printed), it is calculated from the other digits (in the bar code) • (At a later date when scanned), computer repeats calculation • Rejected if different from the original • Accepted if matches the original 	[3]
9	Any three paired marks from: <ul style="list-style-type: none"> • Choose hardware/software [1] because drawbacks/limitations in them may dictate other designs which need including. [1] • Decide on access rights [1] to ensure that data privacy/security is in place. [1] Design/Designs of: <ul style="list-style-type: none"> • Any documents needed for data capture/input forms [1] because it is important that all necessary data is collected/made simpler to avoid mistakes. [1] • Data files/data structure/field names/key fields/data types needed [1] to avoid duplication and therefore during implementation/testing unnecessary adaptations may need to be made. [1] • The input screen layouts/forms [1] to ensure use is as user friendly as possible to avoid errors. [1] • The output(s) screen/reports [1] to ensure that all necessary data is presented for the specific output audience. [1] • Any validation that is needed [1] to automate the error checking on input data. [1] • The human procedures required [1] so that adequate training may be given and if followed the system will work as anticipated. [1] • User interface [1] to ensure that users will find the switch from 1 system to another as stress free as possible. [1] • Relationships between tables [1] to ensure that no duplication/waste of storage space/access to all required data is enabled. [1] • Backup procedures [1] to fit in with the organisation of the office and to prevent (expensive) loss of data. [1] • Test plan [1] to ensure that all eventualities are tested so the system works as anticipated. [1] • Any verification that is needed [1] to ensure that the procedures necessary can be embedded in the work plans of staff. [1] 	[6]

Question	Answer	Mark
10	<p style="text-align: center;">Example points</p> <ul style="list-style-type: none"> • Access to unsuitable materials • Access to huge quantity of information • Availability of access at school may lead to unacceptable use • New skills need to be acquired by ALL teachers • New skills need to be taught to ALL students • May not have computers at home • Parents/teachers believe students more able than before • More difficult to spot 'cheating' by students • Quicker/easier to share information • Viruses may be downloaded 	<p style="text-align: center;">Example expansions</p> <ul style="list-style-type: none"> • Causing stress/discipline problems. • Legal implications over access to such material. • Important to be made aware that not all data is accurate/true. • Need to learn to be selective about information used. • But able to produce much more accurately/better researched work. • Such as chat lines/rooms/attempts to gain unauthorised access • To use resource to full. • To be able to spot misuse when it occurs. • Which may lead to working time implications. • May cause breakdown in discipline to untrained teachers because of new technology • Otherwise some will not benefit from new technology. • May be disenfranchised because of lack of knowledge in new technology. • So gap between 'haves' and 'have nots' grows. • As use of all the expertise available on the Internet may mask lack of ability. • Because so much information available that comparatively simple for students to pass others work off as their own. • By using FTP/email/website • Causing extra work/precautions needed
	<p>Marks</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p>	<p>Criteria</p> <p>1 point (p)</p> <p>2p OR 1p + 1 expansion (xp)</p> <p>2p + 1xp OR 3p</p> <p>2p + 2xp OR 3p + 1xp OR 2p + 1xp + 1 conclusion (c)</p> <p>3p + 2xp OR 3p + 1xp + 1c OR 2p + 2xp + 1c</p> <p>3p + 3xp OR 3p + 2xp + 1c</p>

[6]

Total 60 marks

Report on the Units January 2006

Chief Examiner's Report

Units 2357 and 2358 comprise the Short Course (Specification 1094). Units 2359 and 2360 which, together with the Short Course units, comprise the Full Course (Specification 1994).

Units 2357 and 2359 are externally assessed written papers. Units 2358 and 2360 are internally assessed coursework.

General Comments on Externally assessed Units (Units 2357 and 2359)

Centres are once again reminded that candidates should use generic terms such as spreadsheet, DTP, word processor etc in this specification. **Brand names do not gain credit.**

Graded response mark schemes were used in this specification.

Centres are directed towards the published mark schemes of each unit for more details of the actual graded mark schemes used.

General Comments on Internally assessed Units (Units 2358 and 2360)

Centres are again reminded that it is a requirement for both Unit 2358 (Projects 1a/1b) and 2360 (Project 2) to supply a Centre Authentication Form (**Form CCS160**), signed by its teacher/assessors and this form should be posted to the moderator with the mark sheets (**MS1**) and, where applicable, coursework mark summary sheets.

Centres are once again reminded that it is a requirement for each candidate to sign a Candidate Authentication Form indicating that the work submitted is their own. These forms should be kept in the Centre unless requested by OCR.

Incomplete or inaccurate documentation received from Centres delays the whole moderation process and may result in delays in the issuing of results to those Centres that do not provide moderators with the correct paperwork. While there was some improvement over the June 2005 session, it is still a concern in Unit 2358 (Short Course coursework, Projects 1a and 1b) where there are more choices of strands and the accompanying documentation is essential in enabling the moderator to examine the work. Centres are requested to ensure that the moderator receives the required documentation by the due deadline date.

Centres are, once again, reminded that all coursework submitted for Project 1a must be assessed against the "new" criteria and not against the "old" criteria.

Centres are again referred to the published OCR documents relating to coursework administration, to the 1094/1994 Specification and to the Teacher's Guides.

Note also that OCR offers a Coursework Consultancy Service for those in any doubt of the suitability of the coursework being submitted.

2357F (2357/01 Foundation Tier)

General Comments

Most candidates coped well with the paper and there were few very poor marks. There were a significant number of candidates who scored high marks, and it may have been more appropriate to enter these candidates for the Higher Tier. The paper differentiated well at the higher grades through the questions on ICT in a small shop and ICT in a car park. The able candidates could relate to the ICT involvement in such systems, and produced good responses. Weaker candidates hardly mentioned the use of ICT and wrote in imprecise terms relying on general knowledge.

Candidates gained no credit in questions in which they used brand/trade names, such as Google, Encarta and Excel, or in questions which required a descriptive answer and where only one word was given as a response. Presentation of work was better, but spelling was still poor

Comments on Individual Questions

- 1 Candidates made good use of this introduction to the paper by scoring at least two marks. The most common mistake was to answer plotter for high quality printing.
- 2 The responses to this question were very centre based – if candidates had been taught this diagram they scored the mark. Many centres gave the impression that pupils were not aware of the Input, Process, Output structure. Many candidates gave answers to do with hardware.
- 3 This was a question which enabled candidates to demonstrate their understanding of input devices – it scored highly. Of those getting it wrong there were more answers for joystick than for tracker ball.
- 4 (a) This question was answered well.
(b) This question was answered well.
(c) A significant number of candidates gained the mark for copyright. A disappointing number thought that the answer was something to do with physical problems of getting the book into the photocopier rather than the legal/moral aspect.
(d) This question was answered well.
(e) Most candidates gained the mark. There were a wide variety of answers with many seeming to come from personal experience. Some candidates failed to read the question correctly and did not pick up on the fact that the file had been saved in the first place.
- 5 This question was answered well, with most candidates gaining full marks.
- 6 Most students responded with “eat or drink” – some lost marks by using both as two separate answers. The other common response was “not to run”. Health considerations such as “regular breaks” were frequent wrong answers. Other answers gaining no credit gave general comments rather than being specifically relevant to a computer room.

- 7 (a) Some candidates did not read the question and gave answers relating to the leaflet in general rather than to specific parts. Most got three marks. A few wrong answers were “centred” and a few referred to putting the words into a dotted box. The lack of technical language used in the answers to this question was disappointing.
- (b) On the whole this question was well answered. There were difficulties with language and technical terms, such as crop, and many candidates tried to describe what had been done.
- (c) This question was answered well, with most candidates gaining full marks.
- 8 Many students gave two methods relating to the Internet and thus only achieved one mark. Some candidates gave paper methods or assumed the use of a computer – by just saying encyclopaedia for example. Too many students still refer to trade names such as Google or Encarta.
- 9 There was a general awareness of problems and candidates seemed to be drawing on personal experience. Wording was often rather simplistic, such as “they don’t know who they are talking to” rather than making the “misrepresentation” point. Too many candidates referred to viruses/hacking and little else. Many did not differentiate between different problems but said the same thing in several different ways. Candidates need to be made aware that they need to give different answers to this style of question rather than repeating or rewording. Most candidates gained at least two marks.
- 10 (a) There was a good choice of answers for two marks, but many failed to get them. Many candidates failed to mention that a virus is a program. Most mentioned damage to files, but few obtained the reproducing mark. A popular wrong answer was damage to the computer. Several still think a virus is an illness. No credit was given for stating how viruses are obtained.
- (b) The lack of detail in the answers prevented candidates achieving full marks. Saving the work does not imply a second copy of the file is made. The term “back up” was missing in many answers. Surprisingly few candidates mentioned anti-virus software.
- 11 (a) This question was answered well, most candidates obtaining full marks.
- (b) Most candidates obtained one mark for this question, but very few gained the second. Many gave the same example – automatic - and did not expand on it. Candidates often struggled to get away from issues such as being too hot or too cold or that the heating can be adjusted - which does not need a microprocessor.
- 12 This question was well answered and many candidates gained full marks. Animation and sound were the most popular answers. Some candidates either gave features found in a book - such as pictures or photos - or wrote about having up-to-date weather forecasts which would be more appropriate to a web based system.
- 13 (a) Many candidates obtained one mark for this part, but very few gained the second. Candidates gained marks for mentioning calculations, formula, graphs and tables. It is surprising that this was not answered better, particularly as a significant number of candidates use spreadsheets in their coursework.

- (b) Very few candidates obtained the mark for this question. Answers involved some idea of checking, but validation and proof reading were common ideas which gained no credit. Verification involves checking whether data has been transferred correctly, so the standard acceptable answers involve double entry of data, or visually checking that the data on screen is the same as in the original document.
 - (c) This was poorly answered. Any marks obtained were through answers which involved tables and graphs. Candidates assumed this question was about how to get the data from the spreadsheet into a word processor, not how to display it. This misunderstanding cost marks.
- 14
- (a) Candidates found it difficult to break down an ICT system into its component parts and so answers to both parts were intertwined. Marks were commonly gained in the first part for mentioning bar codes and credit cards, but there were few good expansions of their functions. Candidates gained no credit for considering online shopping.
 - (b) Answers for the second part were often vague and rambling, and did not break the process into its component steps. Many responses gave no mention of ICT systems and could have applied to a paper-based system. Marks were obtained for mentioning bar codes and scanning, spreadsheets or databases.
- 15
- (a)
 - (i) Key entry and swipe card systems were the most popular answers, and many candidates scored both marks. Candidates needed to be specific about the card to get the mark.
 - (ii) Most candidates answered this question correctly. The advantage was usually based on security.
 - (b) Many candidates gained a mark for use of a sensor. The more able candidates understood the calculation process of losing or gaining one space from an initial total and therefore gained full marks. A large number of candidates gained no credit because they merely repeated part of the question, stating that the computer would count the spaces rather than describing the process.

2357H (2357/02 Higher Tier)

General Comments

The vast majority of candidates attempted all questions and, while there were a few instances of graffiti, the vast majority of candidates respected the front page rubric and did not deface the paper.

Comments on Individual Questions

- 1 (a) This question was usually well answered, many candidates achieving full marks. However, many candidates still refer to computer viruses as a disease like the viruses that infect living organisms and therefore refer to them as 'bugs'. Further, there is the continuing belief that these 'bug' will damage the actual hardware.
(b) This question was well answered, most responses being "back-up" and "floppy disk", and it was pleasing to see the suggestion of the latest technologies appearing here. Although, too many candidates also stated CD-Rom as a possibility. When anti-virus software was stated, too few candidates were able to gain the second mark for this part of the question as they failed to properly describe its use.
- 2 (a) This question was very well answered with most candidates scoring the full three marks. It was an easy question.
(b) Candidates rarely scored more than one mark for this question as both responses were too similar with e.g. references to "automatic/not manual" and "no human intervention".
- 3 Most candidates were aware that the contents of a CD-ROM would include video/animation, sound and some form of interactivity.
- 4 (a) Most candidates responded with "calculations", "the use of formulae" or the use of "graphs/charts". Very few candidates achieved both marks as their other Responses involved being able to edit work, being able to lay it out correctly and other general attributes of most software applications which were not given credit.
(b) Most candidates still appear not to know the difference between verification and validation. Too many were prepared to state a validation routine as an answer, some even continuing to explain how to set the type of data to be entered. This is disappointing as the difference should be made very clear to candidates during the teaching of spreadsheets and databases.
(c) Many candidates misinterpreted the question and gave 'cut and paste' scenarios as their response. The question required that candidates state how the data could be presented/displayed e.g. as a chart or as a table and not how it was transferred between packages.
- 5 (a) Many candidates misread this question with too many referring to Internet shopping and/or control of stock which was not the focus of this question. Candidates' responses were often vague with insufficient detail being given, e.g. codes are swiped, bar codes are read, cards are read by machines and "money taken off" thus failing to achieve the higher marks available. However, there was a significant number of excellent answers giving good explanations of the processes involved in using bar codes or debit/credit cards in a small shop.

- (b) As in part (a), many candidate's responses showed a vagueness that was disappointing. Candidates often only stated a few points and did not expand on them e.g. items are sold/new stock arrives but the candidate assumes all this is done by hand and not automatically by the ICT system or fails to explain that the ICT system could do all the stock control including the re-ordering. Again, however, there was a significant number of excellent answers.
- 6 (a) (i) A significant number of candidates either responded with 'the code could be spoken into a *speaker*' or that the software would recognise the voice of the recipient! However, some familiarity with car park systems was shown here and many candidates scored full marks on this question but a significant number of candidates, from their responses, did make too much of putting the ticket in at the entrance when they actually meant the exit.
- (ii) This was usually answered correctly, especially since the candidates could choose from either of their answers to part (i). However, many candidates stated that each driver had their own code that identified them instead of the simpler one that it was an access code to gain entry and therefore did not have to be unique to each driver.
- (b) This question was poorly answered with many vague answers and the number of different sensors quoted seemed endless! Candidates were clearly not thinking of the practical or cost implications of their responses with many answers having sensors in each car bay, whether they were light, infra red, weight etc. Also, it was amazing to see how many computers can count cars without the need for any input whatsoever. However, many candidates gave good answers involving the need to sense the entry and/or exit of a vehicle and to subtract/add one to the number of known available spaces – a significant few stated the subtract/add wrongly...adding one space when a car entered when the system should remove one from the available spaces.
- 7 This was generally well answered and most candidates gained at least two marks but many failed to score full marks as they appeared to be able to give advantages but only a few disadvantages or vice versa. Candidates should be taught, as examination technique, that questions that ask for both advantages and disadvantages should be answered with both.
- 8 (a) (i) Candidates should have found this an easy question on which to gain marks, but unfortunately most candidates repeated themselves and/or failed to state even the most obvious advantages. Acceptable answers included: takes up less space than paper files, can be searched easily/quickly, can be sorted easily/quickly.
- (ii) This question was very poorly answered by most candidates. candidates should be taught that ICT systems have their disadvantages and Centres are directed to the scheme.
- (b) (i) This question was very poorly answered by most candidates. This is very disappointing as verification and validation are important concepts.
- (ii) This question was very poorly answered by most candidates with many referring to verification. This is very disappointing as verification and validation are important concepts.
- (c) It was pleasing to see the number of candidates that directly referred to the uniqueness of the field and indirectly by mentioning family groupings. However too many candidates suggested labels for the field i.e. surname should be used instead.

- 9 Most candidates were able to achieve some marks here but most failed to explain their points thus missing out on the higher marks. Candidates must read the questions more carefully. Too many candidates gave trade/brand names rather than generic terms although it was pleasing to see that quite a few explained what the software was used for before they used the trade name and thus scored a mark e.g. "I would use a program that can create a slide show such as M/S PowerPoint". However, the question asked for ways **to use** the software rather than what to use. Many candidates successfully described the use of the features of the software and/or how it would be used in their talk.
- 10 Most candidates were able to achieve some marks here but most were for points raised rather than points discussed, again the wording of the question was ignored. Too many candidates wrote about being 'able to work at any time,' 'being able to safe work,' 'can shop online', 'an expensive machine if she only wants to do research,' etc. Most candidates did at least attempt to show both advantages and disadvantages for Emma in her acquirement of a computer for use in her research.

2358 (Short Course Projects 1a/1b)

General Comments

Where centres failed to apply the assessment specification accurately it was mainly in the assessment of Project 1a and it is still the case that too few Centres are encouraging their candidates to annotate their work. There was also an increase in the number of Centres failing to indicate whereabouts in the work the evidence for meeting the criteria could be found. Centres are still not taking advantage of the Teacher's Guide published by OCR which contains good advice and, if followed, would remove many of the problems apparently experienced by Centres when assessing the work. The advice relating to the new Project 1a is particularly valuable. However, it should be read in conjunction with the current specification. The OCR training courses also provide opportunities for individual Centres to raise points specific to their own candidates' work.

Centres were much better in their administration than last summer and most did not have to be reminded to provide the Centre Authentication form signed by its teacher/assessors.

There were, however, a small number of Centres failing to send coursework summary forms. This failure delays the whole moderation process and can result in Centres failing to receive their results on time. It is in the Centre's own interests to adhere to deadlines and to also provide the coursework sample within the 3-day deadline.

Again, the lack of internal moderation carried out in a minority of Centres caused problems. Centres are reminded that they have a responsibility to carry out internal moderation of their marking of the coursework. In future sessions moderators will be required to return the work to Centres and ask them to re-mark the work. This will definitely result in a delay in publication of results to those Centres.

Project 1a

The requirement to mark against the new criteria was ignored by a number of Centres.

It was quite clear that some Centres are still not heeding the advice given in the Teacher's Guide and the current specification. Under the new scheme of assessment, candidates fail to get even the lowest ranges of marks if they do not incorporate information in their final document which includes information from non-IT sources and at least one IT source. The requirement for number is also mandatory at low mark levels. Candidates cannot base their use of number on graphs if they do not show the table of numbers on which their graph is based. Some candidates copied and pasted graphs, from their sources, which were really images. Any confusion is easily removed if the original numbers are included and the method of graph production is demonstrated.

Yet again, Centres seemed to struggle with the concept of purpose. As it mentions in the Teacher's Guide the purpose must include identification of an audience and a description of the information to be communicated. For marks higher than 7 candidates must relate the development of the work to this audience. As stated in the Teacher's Guide, development must be evidenced by printouts of at least three different stages of the development. Where candidates are producing a significant piece of work there will obviously be more stages of development. The audience must be referred to at each stage of development. The purpose of the work is the reason for producing the documents and should not be construed as the task itself.

The statement of a purpose is a requirement of the lower mark ranges on the new scheme of assessment and failure to provide a reasonable purpose could lead to a large reduction in

marks. Project 1a is now similar to Project 1b in as much as all criteria must be met in a mark range for that mark to be awarded. Most candidates who were successful concentrated on identifying an audience, usually a specific age group: the purpose of the work being to attract that type of audience.

Many candidates still failed to provide evidence that they have collected, and then incorporated in their final products, information from non-IT sources. It is not sufficient to just collect information from non-IT sources. Candidates must take this information and incorporate it into their work, i.e. the final product. Some Centres mistakenly think that the reference in the specification and in the Teacher's Guide to a 'piece of work' includes their documentation. It does not. The piece of work referred to is the brochure or presentation they are producing for their end product.

One other major failing was, once again, the lack of evidence of number in the work of many candidates. As has been stated in many previous reports, the rationale behind the use of text, images and number is that in any given document the formatting of each of these is done differently. There is a requirement that candidates are aware that numbers are formatted differently to the other two forms of information. One example is the use of currency, where each one would have a currency symbol in front of it and each number would have the decimal point in line with its predecessor etc. An awareness by the candidates of the need for the different formatting requirements of numbers is all that is required. A number of candidates are still using phone numbers as their evidence of number. Telephone numbers do not meet the criterion for any skill which mentions number. Numbers are those which can, or have been, mathematically manipulated. Where data types such as dates or times are used they cannot have dashes or the word to (as in opening times) as this makes them text. Graphs can be construed as images unless the manner in which they are produced is fully documented. Again, work lacking evidence of a list of numbers led to many marks being lost under the new assessment.

Many Centres failed to realise that for the new assessment information has to be produced from a minimum of two (2) non-IT sources which must be included in their final booklet or slide show for all but the lowest mark range. For marks above 13 information from a minimum of two (2) different IT sources must be included in the booklet or presentation. The Internet is considered to be only one IT source. It is not sufficient for candidates to look at the Internet or CD ROMs, or in magazines, books and newspapers for 'research' purposes. They must actually incorporate a minimum of the four (4) pieces of information (one from each source) into their final booklet/presentation and at least one piece should be numeric, at least one should be text and at least one should be an image.

Once again, it appeared that some Centres allowed candidates to spend a lot of time producing a booklet and then, at the end of this process, tried to identify the skills which had been awarded. A more structured approach is suggested whereby candidates are advised how and where they can obtain credit for skills. One simple way of structuring the work is to allow candidates to produce between two and four pages of a booklet confining themselves to the use of in-house clipart and scanned images as their pictures. The candidates can then complete their booklets by moving on to use the Internet as a source of further information. At the other end of the spectrum, as GCSE candidates must work independently, a structure which involves worksheets which clearly define each step in the process and dictate to the candidate what they should do is also not advisable. Such an approach, or other on-line methods such as writing frames, can limit a candidate's ability to produce their own work.

Project 1b

A number of Centres are still not following the requirements of the specification that state that in order for a candidate to be awarded a mark within a given mark range they must match all the criteria within that mark range.

Comments on Individual Strands

Data Handling

Centres are reminded that In order for a candidate to be awarded a mark within a given mark range they must match all the criteria within that mark range. A number of Centres disregarded this requirement and had their marks reduced accordingly. In this specification, the criteria are hierarchical and so if a candidate fails to verify their database, for example, they are going to get very low marks no matter how many of the higher criteria they have met.

There were still a small number of centres awarding marks for this strand despite there being little evidence of searches (interrogation) performed on the database used. This leads to a mark of zero being awarded. The evidence required for this is a printout of the matching records.

For 14 to 16 marks to be awarded candidates must provide evidence of using a range of sources. They must also give reasons for selecting the data for inclusion in the database. The Teacher's Guide for the specification explains in detail what is required. *Reasons for choosing fields* cannot be based on the proposition that these were what were required by a 'user'. It can be a list of possible questions (queries) which the database is required to answer which the candidate uses to deduce the fields required to answer such questions. It could be a survey of a number of possible users as to what fields would be needed and then deducing from the response what fields are required.

For marks above 16 candidates must use Boolean operands in their searches. The criterion refers to complex searches (plural) and so requires an absolute minimum of two complex searches. A minimum of two different Boolean operands must be used.

Some Centres are still confused over the requirements for validation. Proof that validation has worked is required. This is done by producing screen dumps showing error messages being produced as a result of the candidates setting up their own routines. The entry of text into a numeric field does not count; neither does the designing of field types which limit data entry. The criterion requires the candidates to write their *own* validation routines.

For marks above 19 candidates must describe their choice of software in terms of the features required to solve the problem and compare it with an alternative piece of software. Many candidates lose marks because they give a list of features which are not required by the solution or fail to give a list of features required by the solution or, indeed, give a list of features required by the solution but are equally available in the package they are rejecting. It is apparent that many candidates have little experience of using alternative data handling packages to the one they used to create their database.

For marks in the highest ranges, candidates are expected to give reasons why they have chosen the fields included in their database but left out others. They will also need to give reasons for their choice of field types and explain their choice of field lengths. A number of Centres think that it is sufficient for candidates to list these rather than give reasons for their choice. This is not acceptable.

For the highest mark range of 26-28 marks, the required output must be stated. This must also be in terms of the format of the output . As one of the criteria is to comment on how easy it was to produce tables and graphs, candidates must obviously stipulate these as being part of the required output and then produce this output. This will usually be the output from a list of queries which the candidate surmises they will use to test their database. Candidates must relate all the reasons for the choice of all the various features listed in the 26 to 28 mark range to this required output.

It is to be remembered by Centres that only the most gifted of students should be awarded marks in this range as it is intended to be a true discriminator for grade A/A* candidates.

Modelling

More centres are now aware of what constitutes a complex model.

Centres are still using writing frames as prompt sheets for candidates and this often leads to candidates being unable to truly explore the model.

Validity of a model is also still causing problems. Candidates are required to compare the model with a real life situation in order to secure credit. Some candidates failed to design a complex model but were still awarded marks above 19. It is not sufficient to make a design and then go on to create a complex model; the original design should be complex.

A number of Centres fail to understand the requirement for justifying the choice of software. Candidates should define their problem, then produce a list of software features required to solve the problem, followed by a description of their choice of software and how well it meets the required features. The description of how they created their spreadsheet should contain a number of screenshots illustrating how these features were used.

Measuring

A number of Centres submitted work for this strand which failed to comply with the requirements of the specification. Many just used one type of sensor when the specification demands a minimum of two different types of sensor. Too many Centres regard this as an easy option but should remember that this strand requires the same level of detail in the documentation as any other strand. The candidates' reports must still match the specification criteria in order to obtain marks. Many IT Departments allow the Science Department to teach this strand and then mark the outcomes themselves although the outcomes obviously cover the science requirements more than the ICT. Centres are reminded that 18 hours should be spent on the teaching of and production of Project 1b.

Control

This strand still causes some Centres some problems. The advice in the Teacher's Guide clearly identifies the need for equipment to be set up by an individual, not a team, including the setting up of two different types of sensor – not contact switches. These must all be connected by the candidate to a computer through some form of interface. The creation of this system must be evidenced and photographs of the stages of creation are the best way of doing this.

Candidates must realise that they have to annotate their programs showing how they have used precision and what would have happened if they had not. Evaluations which refer to their use of precision are not the same thing.

Finally, feedback is defined as the output of system affecting the input of a system. It is not considered to be the reaction to inputs.

2359F (2359/01 Foundation Tier)

General Comments

The majority of candidates seemed to be better prepared for this paper and performed quite well. The paper allowed all candidates opportunities to display their knowledge.

Most candidates were able to satisfactorily answer many of the questions.

Below is a description of the main points of misunderstanding on the part of the candidate. Where candidates performed as expected the question has not been included.

Comments on Individual Questions

- 1 Candidates did fairly well on this question. Most candidates achieved at least two marks.
- 2 Most candidates scored three or more marks. However, a large number of candidates did not appear to understand MICR and OCR.
- 3 (a)(b) Generally well-answered although a number of candidates seemed to be unsure about the relative sizes of DVDs and CDs in part (a).
- 4 This question was usually well answered.
- 5 Many candidates struggled to put the terms in the correct order.
- 6 This question was very badly answered. Many candidates thought data was coded for security reasons.
- 7 Few candidates achieved more than one mark. Most found it difficult to express the idea that the data was scrambled. The notion of security was a common mark-scoring answer.
- 8 (a) This was not one of the better answered questions. Many gained marks for passwords and usernames but failed to mention other means of restricting access.
(b) Few candidates appreciated that the answer must relate to an **intranet**. Their answers were often just as relevant to having the **Internet** or other means of disseminating information.
(c) Candidates often failed to stress that this was about broadening the range of resources available. Many seemed content to mention its uses.
- 9 (a) This was done reasonably well most candidates giving at least one disability and reason for using a CD.
(b) Candidates often repeated their answers for part (a) in this question.
- 10 Although some interesting and creative network solutions that did not score marks were seen, most pupils gained some marks on this section.

Report on the Units taken in January 2006

- 11 (a) This was badly answered. Some candidates gave detailed descriptions of the contents of the letter. Some wrote that the name and address could be altered for different customers but by doing it themselves, individually, with no mention of the computer. Some candidates were aware of the need for a customer database,
- (b) Candidates often failed to gain marks as they gave very generalised answers without being specific to mail merge.
- 12 Candidates either knew the analysis stage of the systems life cycle or they didn't. There was no middle ground. This topic needs to be explicitly taught.
- 13 (a) This was answered reasonably well with many candidates getting a mark for mentioning the instant sharing of events.
- (b) Again, this question was reasonably well answered. Many candidates getting at least one mark, usually for mentioning the poor picture quality.

2359H (2359/02 Higher Tier)

General Comments

It was still apparent that areas of the specification are not taught in sufficient detail to allow candidates to achieve their full potential in this Unit.

It is again clear that, where the subject matter could not be 'acquired' or 'assimilated' merely by taking an ICT course, or by using ICT, candidates did not answer the questions well. Questions about the different reasons for using/having intranets and the Internet, or different methods of investigating a system during analysis, or about the tasks carried out during the design of a system were well answered.

These are matters which have been repeatedly raised, and emphasised, in the Chief Examiners report to Centres over many sessions. OCR also provides a series of INSET/training sessions aimed at these areas to raise teachers' awareness of the need to fully address all sections of the specification in their schemes of work. It is hoped that teachers take advantage of these and of the comments in this Report to Centres.

Comments on Individual Questions

- 1 (a)(b) These were not well answered – far too many answers were too vague to gain credit, for example: 'to find out information', 'to do research' are too vague at this level. This area of the specification requires some specific teaching.
- 2 (a)(b) These were both well answered and most candidates scored well on the question. This was a question which did not rely on ICT but could be answered from a "general knowledge" of ICT matters.
The first two questions clearly illustrate the comments made in the introductory comments to this Unit.
- 3 (a) This was quite well answered with only a few candidates not scoring any marks. "using mail-merge" was sufficient to score a mark.
(b) This was less well answered than part (a). A common correct answer was that it would take much longer to type all of the letters individually but few mentioned other advantages such as reuse of the database or being less likely to omit customers from the mailshot.
- 4 This was, surprisingly, not well answered at all, perhaps because candidates had to have been taught the methods.
- 5 This question was very answered by the majority of candidates – surprising in that topology questions have, in the past, been notorious for being poorly answered. Perhaps the diagram gave candidates a little too much help.
- 6 (a) This question was less well answered than expected given the number of, and familiarity with, mobile phones.
(b) This was generally better answered than part (a), with common correct answers being 'poor quality pictures' and 'limited memory space for many pictures'.
- 7 (a) This question was very well answered with most candidates scoring over half of the marks available. Common incorrect responses showed the database set-up screen commonly found in proprietary packages instead of the 'screen input form' asked for in the question.

- (b) The principles were reasonably well stated but drawing conclusions as to the importance of each was poor, with candidates often repeating, in a longer format, the principle already stated in their first response. For example: 'Principle 1 – data must be secure' ..is important because .. 'the data must be password protected and no-one else can have access to it' is mere repetition.
- 8 (a)(b) Few candidates were able to state that the purpose of a check digit is validation. Common errors were 'to check the bar-code is correct' and 'to check how much stock is left of the item'.
- 9 This question was very poorly answered and it was apparent that many candidates had no idea of the processes involved in the design stage of a new system. It is possible that candidates had not reached the design stage of their Project 2 and so had no experience of the stages which occur during this process. Often candidates gave answers such as 'analysis', 'design the system', 'evaluate the system', 'test the system', and seemed to have either not read, or understood the question which clearly asks for three tasks carried out **during the design stage**. This again raises the issue of candidates being entered for this Unit examination before covering the whole specification. Again, candidates must be properly prepared for the written papers.
- 10 A graded response mark scheme was used in this question and most candidates scored some marks in this question. Common, correct answers included: "difficult to spot plagiarism" or cheating because there is so much information available", "availability.." may "lead to inappropriate use", access to "large amounts of information" so "need to be selective" in its use.

2360 (Full Course Project 2)

General Comments

There was a small increase in the number of Centres entering candidates for this Unit compared to January 2005, but numbers continue to be small compared the June sessions.

It should also be noted that there have been several INSET/training sessions since the June 2005 session in which delegates from over two hundred centres have had the opportunity to clarify their ideas about the various assessment criteria. However, there continues to be examples of mis-interpretation of the assessment requirements, leading to over-generous assessment of the worth of candidate's submitted work.

Again, there was a lack of annotation of the work to show where marks had been awarded. Such annotation is vital if the moderator is to be able to identify the areas where the evidence for the awarding of marks are to be found within the project. A moderator is required to look at the marking of the work by the Centre and agree, or not, with the markers interpretation of the criteria. Moderators should not have to search for places where any extra evidence might be found nor to cross-correlate sections of the work to try and support the original marker's interpretations. The annotation of work by the original marker is an example of good practice but is seen all too rarely.

Centres' attention is drawn to the requirement that candidates producing work for Project 2 are expected to design and implement a system for others to use, that provides a solution to a problem. This requires the candidate to look at what the user(s) do now to solve the problem (analysis) and then produce a system that will satisfy the user(s) needs. i.e.: the candidate should be looking at what is required by the user(s) and deciding, amongst other things, what is the most suitable type of software package. It is not acceptable for candidates to begin their project documentation by saying: "For my database project" and then moving onto describing a scenario around which their work will be based.

Specific Comments

- In each section, at the lowest level of assessment, candidates can be awarded a mark for simply producing a list e.g. in Analysis, a list of inputs, outputs, and the required processing, or in Design a list of the software and hardware, can be awarded one mark. However, to be awarded higher marks, in a particular section, candidates must include more commentary that actually "describes". There was evidence that some candidates had been awarded marks where there was minimal "description" and this was considered insufficient to accept the awarding of this level of mark. The evidence of "justification" was similarly generously assessed by Centres as it lacked the required comparison of appropriate features and conclusions to support the awarding of marks at the higher levels.
- In Design, if a candidate decides that the solution requires a relational database, then to be awarded more than 1 mark, alternative designs must be included for each of the separate tables. Where appropriate alternatives are required, then a minimum two designs is required for every identified item. This minimum requirement has been referred to on many previous occasions but is still being ignored.
- In the Implementation section, to award more than two marks in the first two sections, there must be changes as a result of the candidate finding that there is a need to alter their chosen design, and these changes must be separate and different to those that were made between different designs in the Design section. Minor changes such as in field lengths, font (shape/size or colour) are not acceptable. Changes to the user interfaces and output formats, however, may well be attributed to more aesthetic reasons. If schemes of work force candidates to follow the structure of the assessment criteria, they will find that it is not until they have chosen their various

designs that they can then consider the features offered by various software packages, and make their choice based on which package offers the closest match. Some modifications of their designs during the Implementation stage then follow naturally.

- Thorough testing requires the candidate to show that their system can do what they list in the Analysis section for the user requirements. It was apparent in the work seen by moderators that markers had awarded more than two marks simply because the candidate had included a large number of tests, despite these tests not being related to the user requirements.
- It should be noted that the candidate's User Guide must be based on the use of the system and not simply tell a user how to load the software package, install the system, etc. Such instructions do not satisfy the requirements of the assessment criteria. Much of the work seen by moderators consisted of rather cursory comments but had been assessed as providing detailed instructions.
- Finally, there continues to be acceptance by Centres of evidence of collecting information which has obviously been "manufactured" by the candidates. Again, it has been consistently stated at INSET/training sessions that real data is required. This means that it is unacceptable for candidates to include claimed responses to questionnaires, or documentation that lists questions asked with claimed responses made as the result of a make-believe interview. Even if these are signed by a real person - who often turns out to be a classmate – these are not acceptable. The only conceivably acceptable scenario for this is that the classmate really is the potential user.
- Contacting a user to arrange an interview or sending a questionnaire for completion will involve correspondence and examples of this should be included as evidence that the candidate understands that this is the process required.

Many Centres have come up with novel methods of achieving this.

Examples include:

- the candidates producing a system for a parent, who can then not only answer the questions accurately, but was invited to see the finished product and provide feedback for both testing and evaluation from the point of view of the user.
- The setting of a scenario which included an email address of the organisation. This address was monitored by the teachers and responses made as appropriate.

Both of these ideas are to be commended and have enabled candidates to produce the required evidence to achieve marks for Analysis: "use methods of collecting information".

**General Certificate of Secondary Education
ICT A (1094/1994)
January 2006 Assessment Session**

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
2357F	Raw	60				46	41	37	33	29	
	UMS	55				48	40	32	24	16	0
2357H	Raw	60	48	43	38	33	27	24			0
	UMS	80	72	64	56	48	40	32			0
2358	Raw	60	57	50	41	33	27	21	16	11	0
	UMS	120	108	96	84	72	60	48	36	24	0
2359F	Raw	60				31	27	23	20	17	0
	UMS	55				48	40	32	24	16	0
2359H	Raw	60	38	32	26	21	16	13			0
	UMS	80	72	64	56	48	40	32			0
2360	Raw	60	53	44	35	26	22	19	16	13	0
	UMS	120	108	96	84	72	60	48	36	24	0

Specification Aggregation Results

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

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1094	200	180	160	140	120	100	80	60	40	0

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1994	400	360	320	280	240	200	160	120	80	0

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

	A*	A	B	C	D	E	F	G	U	Total No. of Cands
1094	0.4	4.9	15.2	34.8	53.2	67.9	83.1	95.1	100.0	556
1994	8.0	24.8	42.5	74.3	85.0	91.2	95.6	100.0	100.0	116

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

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Information Bureau

(General Qualifications)

Telephone: 01223 553998

Facsimile: 01223 552627

Email: helpdesk@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2006

