

Information & Communication Technology A

General Certificate of Secondary Education **GCSE 1994**

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

Mark Scheme for the Units

June 2009

1994/1094/MS/R/09

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

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.

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GCSE Information and Communication Technology A (1994)

GCSE Information and Communication Technology A (Short Course) (1094)

MARK SCHEMES FOR THE UNITS

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Question	Answer	Mark												
3	<p>Ticks as shown.</p> <table border="1"> <thead> <tr> <th>Statement</th> <th>True (✓)</th> <th>False (✓)</th> </tr> </thead> <tbody> <tr> <td>The lamp is an input device</td> <td></td> <td>✓</td> </tr> <tr> <td>The light sensor is an input device</td> <td>✓</td> <td></td> </tr> <tr> <td>The street lamp comes on when the sun shines on the light sensor</td> <td></td> <td>✓</td> </tr> </tbody> </table>	Statement	True (✓)	False (✓)	The lamp is an input device		✓	The light sensor is an input device	✓		The street lamp comes on when the sun shines on the light sensor		✓	<p>[3]</p>
Statement	True (✓)	False (✓)												
The lamp is an input device		✓												
The light sensor is an input device	✓													
The street lamp comes on when the sun shines on the light sensor		✓												

Question	Answer	Mark												
4	<p>Ticks as shown.</p> <table border="1"><thead><tr><th>Statement</th><th>True (✓)</th><th>False (✓)</th></tr></thead><tbody><tr><td>He should make a back up at regular intervals.</td><td>✓</td><td></td></tr><tr><td>Backups should be kept next to the computer.</td><td></td><td>✓</td></tr><tr><td>He can use a floppy disk for his backups.</td><td></td><td>✓</td></tr></tbody></table>	Statement	True (✓)	False (✓)	He should make a back up at regular intervals.	✓		Backups should be kept next to the computer.		✓	He can use a floppy disk for his backups.		✓	<p>[3]</p>
Statement	True (✓)	False (✓)												
He should make a back up at regular intervals.	✓													
Backups should be kept next to the computer.		✓												
He can use a floppy disk for his backups.		✓												

Question	Answer	Mark																			
5	Ticks as shown. <table border="1" style="margin-left: 40px;"> <thead> <tr> <th rowspan="2">Item</th> <th colspan="3">To reduce the risk of</th> </tr> <tr> <th>back problems</th> <th>eyestrain (✓)</th> <th>RSI (✓)</th> </tr> </thead> <tbody> <tr> <td>adjustable chair</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>high resolution monitor</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>wrist rest</td> <td></td> <td></td> <td>✓</td> </tr> </tbody> </table>	Item	To reduce the risk of			back problems	eyestrain (✓)	RSI (✓)	adjustable chair	✓			high resolution monitor		✓		wrist rest			✓	[3]
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	back problems	eyestrain (✓)	RSI (✓)																		
adjustable chair	✓																				
high resolution monitor		✓																			
wrist rest			✓																		
6	(a) B7/R7C2 <i>Must be letter/row first.</i>	[1]																			

Question	Answer	Mark
(b)	<p><i>Two from:</i></p> <ul style="list-style-type: none">• multiples/times/product• (cell) B4/Number by (cell) C4/Price Each• calculates total cost of <u>monitors</u>.	[2]
(c)	<p><i>There are three possible methods:</i></p> <ul style="list-style-type: none">• copy (cell D4)• paste into (cells D5 to D7) • drag <u>corner/cross</u> (of cell D4)• over cells (D5 to D7) • highlight/select D4 to D7• fill (down).	[2]

Question	Answer	Mark
(d)	<p>=SUM(D4:D7) or =SUM(D4:D8)</p> <p><i>One mark for the function ie =sum()</i></p> <p><i>One mark for the correct range ie D4 to D7 or D8</i></p> <p><i>One mark for other correct working formula eg (=)D4+D5+D6+D7 (+ D8).</i></p>	[2]
(e)	<p>(i) Three from:</p> <ul style="list-style-type: none"> • select/highlight • correct cell range (D4 to D9) • choose format • select currency/pounds/£. 	[3]
	<p>(ii) One from:</p> <ul style="list-style-type: none"> • cell contents remain numbers • can perform calculations • displayed correctly as currency • no need to type in the currency symbol. 	[1]

Question	Answer	Mark																									
7	<p><i>Three from:</i></p> <p>At X: fill (the hat)</p> <p>At Y: cut (the shapes) <u>and</u> paste (the shapes)/select <u>and</u> drag</p> <p>At Z: crop.</p>	[3]																									
8	<p>(a) Ticks as shown.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Data at</th> <th>Real Number (✓)</th> <th>Integer Number (✓)</th> <th>Text (✓)</th> <th>Date (✓)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td></td> <td></td> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td>B</td> <td></td> <td style="text-align: center;">✓</td> <td></td> <td></td> </tr> <tr> <td>C</td> <td style="text-align: center;">✓</td> <td></td> <td></td> <td></td> </tr> <tr> <td>D</td> <td></td> <td></td> <td style="text-align: center;">✓</td> <td></td> </tr> </tbody> </table>	Data at	Real Number (✓)	Integer Number (✓)	Text (✓)	Date (✓)	A				✓	B		✓			C	✓				D			✓		[4]
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	<p>(b) <i>Two from:</i></p> <ul style="list-style-type: none"> • takes up less space in datafile/on disk • quicker to input • verification is easier/quicker • simpler validation routines • fewer data entry errors • quicker to search/sort/process • data entry form less cluttered. 	[2]																									

Question	Answer	Mark
(c)	<p>Four from:</p> <ul style="list-style-type: none"> • create data capture sheet • use columns for each field • use titles/headers • one named example • use tally chart • record numbers in fields/columns/tally chart boxes • check/verify his entries/recordings • date his recordings • enter data into database • verify/check data (after entry). 	[4]
(d)	<p>Two from:</p> <ul style="list-style-type: none"> • (check that the data is) reasonable/acceptable • (check that the data) conforms to rules. 	[2]
9	<p>Three from:</p> <ul style="list-style-type: none"> • screenshots of package working/being tested • images that have been altered • completed test plan • user feedback/questionnaires from users • user feedback/transcripts of interviews • results of user testing. <p>Credit 'user feedback' only once.</p>	[3]

Question	Answer	Mark	
(b)	<p>Three from:</p> <ul style="list-style-type: none"> • copy protection on CD-ROM • use of licence key/password • licence agreement • use of internet to validate the software • software sends back data to developer when in use/original media needs to be in drive • checking computer unique ID • Digital Rights Management/DRM • warning notices eg copyright/theft • unlicensed software may not be fully functional/watermark images. 	[3]	
(c)	<p>Two from:</p> <ul style="list-style-type: none"> • request software on CD-ROM/don't download from supplier via internet • don't download a 'pirate copy'/share software • purchase from reputable suppliers • use/install anti-virus software. <p>Do not accept: firewall.</p>	[2]	
10	(a)	<p>Three from:</p> <ul style="list-style-type: none"> • share peripherals • share internet access/all use one internet connection • share data/files/music/video/games • make backups centrally/remotely • ease of maintenance • parental control/monitoring. 	[3]

Question	Answer	Mark
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • viruses can spread • lack of privacy for files/email • trailing wires • wireless networks have unknown health issues • wireless networks can be insecure • hardware can be expensive for home use • if server fails other computers may not work • maintenance can be time consuming. 	[2]
11	<p>Three from:</p> <p>Suitable examples:</p> <ul style="list-style-type: none"> • web browsing/using search engines • email companies to enquire about vacancies • download application forms • on-line applications • mass mailings by prospective employers • advertising on (own) website • register for job vacancy updates via eg email/text • use word processing to write a CV/application letter • use mail merge to mass produce letters asking about vacancies/jobs • possessing (relevant) ICT skills. 	[3]

Total [60 marks]

2357/02 Paper 1 (Higher)

Question	Answer		Mark
1	(a)	<p>=SUM(D4:D7) or =SUM(D4:D8)</p> <p><i>One mark for the function ie =sum()</i></p> <p><i>One mark for the correct range ie D4 to D7 or D8</i></p> <p><i>One mark for other correct working formula eg (=)D4+D5+D6+D7 (+ D8).</i></p>	[2]
	(b)	<p>(i) Three from:</p> <ul style="list-style-type: none"> • select/highlight • correct cell range (D4 to D9) • choose format • select currency/pounds/£. 	[3]
		<p>(ii) One from:</p> <ul style="list-style-type: none"> • cell contents remain numbers • can perform calculations • displayed correctly as currency • no need to type in the currency symbol. 	[1]

Question	Answer	Mark
2	<p>(a) Three from:</p> <ul style="list-style-type: none"> • screenshots of package working/being tested • images that have been altered • completed test plan • user feedback/questionnaires from users • user feedback/transcripts of interviews • results of user testing. <p>Credit 'user feedback' only once.</p>	[3]
	<p>(b) Three from:</p> <ul style="list-style-type: none"> • copy protection on CD-ROM • use of licence key/password • licence agreement • use of internet to validate the software • software sends back data to developer when in use/original media needs to be in drive • checking computer unique ID • Digital Rights Management/DRM • warning notices eg copyright/theft • unlicensed software may not be fully functional/watermark images. 	[3]
	<p>(c) Two from:</p> <ul style="list-style-type: none"> • request software on CD-ROM/don't download from supplier via internet • don't download a 'pirate copy'/share software • purchase from reputable suppliers • use/install anti-virus software. <p>Do not accept: firewall.</p>	[2]

Question	Answer	Mark																									
3	<p>(a)</p> <p>Ticks as shown.</p> <table border="1"> <thead> <tr> <th>Data at</th> <th>Real Number (✓)</th> <th>Integer Number (✓)</th> <th>Text (✓)</th> <th>Date (✓)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td></td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>B</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>C</td> <td>✓</td> <td></td> <td></td> <td></td> </tr> <tr> <td>D</td> <td></td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Data at	Real Number (✓)	Integer Number (✓)	Text (✓)	Date (✓)	A				✓	B		✓			C	✓				D			✓		[4]
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	<p>(b)</p> <p>Two from:</p> <ul style="list-style-type: none"> • takes up less space in datafile/on disk • quicker to input • verification is easier/quicker • simpler validation routines • fewer data entry errors • quicker to search/sort/process • data entry form less cluttered. 	[2]																									
	<p>(c)</p> <p>Four from:</p> <ul style="list-style-type: none"> • create data capture sheet • use columns for each field • use titles/headers • one named example • use tally chart • record numbers in fields/columns/tally chart boxes • check/verify his entries/recordings • date his recordings • enter data into database • verify/check data (after entry). 	[4]																									

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(d)	<p>Two from:</p> <ul style="list-style-type: none"> • (check that the data is) reasonable/acceptable • (check that the data) conforms to rules. 	[2]
4	<p>(a)</p> <p>Three from:</p> <ul style="list-style-type: none"> • share peripherals • share internet access/all use one internet connection • share data/files/music/video/games • make backups centrally/remotely • ease of maintenance • parental control/monitoring. 	[3]
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • viruses can spread • lack of privacy for files/email • trailing wires • wireless networks have unknown health issues • wireless networks can be insecure • hardware can be expensive for home use • if server fails other computers may not work • maintenance can be time consuming. 	[2]

Question	Answer	Mark
5	<p>Examples include:</p> <p><i>Automatic</i></p> <ul style="list-style-type: none"> • time freed up for other activities + programmable washing machines/dryers/cookers/programmable cookers/microwave ovens • no need for repeated shopping trips + automated ordering by eg refrigerators • no need to constantly monitor services/system/tend eg fires/programmable air conditioning/climate control/central heating + free to do other activities. <p><i>Leisure</i></p> <ul style="list-style-type: none"> • reduced need for movement/to be at home select program/options/program + devices remote (control) for eg TV, audio, DAB, satellite TV • select TV programs to record/set timers without supervision + (remote control of devices) over internet/mobile phone. <p><i>Accuracy</i></p> <ul style="list-style-type: none"> • conditions more accurately controlled + control of air conditioning/climate control/central heating • maintenance of temperatures/timings/setting options + cookers/microwaves/washing machine control. <p><i>Security options</i></p> <ul style="list-style-type: none"> • monitor home security/set security options + (remote control of devices) over internet/mobile phone. <p><i>Help with Disabilities</i></p> <ul style="list-style-type: none"> • control items eg windows/doors/appliances + use of eyelid sensors/voice recognition/switches/foot switches • increased mobility/independence + use of computer controlled wheelchairs/lifts/voice activated control of devices. 	[4]

Question	Answer	Mark								
6	<p><i>To be marked as a banded response using this grid:</i></p> <table border="1"> <thead> <tr> <th>Mark Band</th> <th>Criteria</th> </tr> </thead> <tbody> <tr> <td>L 1-3</td> <td>Problem(s) AND/OR benefit(s) identified, no expansions at all.</td> </tr> <tr> <td>M 4-6</td> <td>Problem(s) AND/OR benefit(s) identified with expansion(s) of either but not both.</td> </tr> <tr> <td>H 7-9</td> <td>Problem(s) AND benefit(s) identified with expansion(s) of both.</td> </tr> </tbody> </table> <p>Allow one mark for a reasoned conclusion.</p> <p>Example problems:</p> <ul style="list-style-type: none"> • introduction/spread of viruses by email attachments/downloads • anti-social/illegal activities viewed/accessed inappropriate materials with an appropriate example, eg pornography/racial issues/terrorist activities • abuse by bullying/contact with inappropriate persons • spam filling email inboxes/large numbers of emails using storage space/masking legitimate emails • emailing in school causing distraction from tasks in hand • cheating in tests/cheating by copying/sending eg homework, coursework • increased (administration) costs of employing technicians • need for increased storage eg servers and its maintenance/administration. <p>Example benefits</p> <ul style="list-style-type: none"> • (email used for) contacting experts for research • (email used for) contacting teachers for help/advice • (email used for) attaching work to send to/from home/school • (email used for) sending work to teachers for assessment • (email used for) sending information about school activities/notices • (email used for) sending work to/from students away from school • teachers can email whole groups with work/instructions. 	Mark Band	Criteria	L 1-3	Problem(s) AND/OR benefit(s) identified, no expansions at all.	M 4-6	Problem(s) AND/OR benefit(s) identified with expansion(s) of either but not both .	H 7-9	Problem(s) AND benefit(s) identified with expansion(s) of both .	[9]
Mark Band	Criteria									
L 1-3	Problem(s) AND/OR benefit(s) identified, no expansions at all.									
M 4-6	Problem(s) AND/OR benefit(s) identified with expansion(s) of either but not both .									
H 7-9	Problem(s) AND benefit(s) identified with expansion(s) of both .									

Question	Answer	Mark
7	<p>Identification of three tools from:</p> <ul style="list-style-type: none"> • <i>Accurate measurements</i> <ul style="list-style-type: none"> ○ accurate sizings ○ accurate placement of objects ○ setup for CAM. • <i>3D</i> <ul style="list-style-type: none"> ○ <i>realistic view</i> ○ <i>perspective view</i> ○ <i>see from angles.</i> • <i>Material analysis</i> <ul style="list-style-type: none"> ○ <i>analyse costs</i> ○ <i>analyse amount of materials needed.</i> ○ <i>visual choice/selection of materials.</i> • <i>Lines of different thickness</i> <ul style="list-style-type: none"> ○ <i>perspective</i> ○ <i>realistic drawings.</i> • <i>Library of objects</i> <ul style="list-style-type: none"> ○ <i>ready made/drawn objects available</i> ○ <i>objects applicable to design.</i> • <i>Auto dimensioning</i> <ul style="list-style-type: none"> ○ <i>define the relationship between objects</i> ○ <i>automatically position lines/dimensions/text.</i> 	

Question	Answer	Mark
	<ul style="list-style-type: none"> • <i>Walk through</i> <ul style="list-style-type: none"> ○ <i>provide a virtual tour of the internal workings (of the phone)/can inspect the internal construction (of the phone)</i> ○ <i>view the compartments/structure from all angles</i> ○ <i>test the accuracy of current or previously used control activities.</i> <p>One mark for each black bullet point up to a maximum of three. Maximum of three marks per feature. Max of 5 marks if only two features mentioned.</p>	
8	<p>MAX [2] from:</p> <ul style="list-style-type: none"> • Search/relevant data selected • Sort data/data organised into order/categories. <p>MAX [2] from: Export</p> <ul style="list-style-type: none"> • by file/CSV • by OLE. <p>Import</p> <ul style="list-style-type: none"> • into spreadsheet/analytical software. <p>MAX [3] from: Analyse</p> <ul style="list-style-type: none"> • in tables • in charts/graphs • calculations eg averages • trends/predictions • add legends/titles/comments to charts/graphs • in a report. <p>MAX [2] from: Import/copy and paste</p> <ul style="list-style-type: none"> • into DTP/WP • add text/explanations • add images/photographs/graphics. <p style="text-align: right;">Max [6] marks</p>	[6]

Question	Answer	Mark
9	<p>Four from:</p> <p>Formulas for calculations In built functions for complex calculations Goal seek to determine required inputs for specified result. Filter/sort data to select subset/order information Graphs for trends/analysis Automatic calculation</p> <ul style="list-style-type: none"> - for update/up-to-date results - is faster than manual <p>Macros for repetitive commands/actions Using absolute referencing to use one specific cell and never move to another relative location in the calculations Using relative referencing to follow changes in the sheet layout/structure.</p> <p><i>Award the mark only for a correct feature AND its use/advantage.</i></p>	[4]

Total [60 marks]

2359/01 Paper 3 (Foundation)

Q	Mark Scheme	Marks																		
1	buzzer CD ROM MICR OMR plotter	[2]																		
2	<table border="1"> <thead> <tr> <th>Statement</th> <th>True (✓)</th> <th>False (✓)</th> </tr> </thead> <tbody> <tr> <td>More workers are now employed</td> <td></td> <td>✓</td> </tr> <tr> <td>Workers have had to retrain</td> <td>✓</td> <td></td> </tr> <tr> <td>The working environment is a lot more dangerous</td> <td></td> <td>✓</td> </tr> <tr> <td>The quality of work is more consistent</td> <td>✓</td> <td></td> </tr> <tr> <td>The total wage bill has gone up</td> <td></td> <td>✓</td> </tr> </tbody> </table>	Statement	True (✓)	False (✓)	More workers are now employed		✓	Workers have had to retrain	✓		The working environment is a lot more dangerous		✓	The quality of work is more consistent	✓		The total wage bill has gone up		✓	[5]
Statement	True (✓)	False (✓)																		
More workers are now employed		✓																		
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The quality of work is more consistent	✓																			
The total wage bill has gone up		✓																		
3	<table border="1"> <tbody> <tr> <td>A computerised hotel booking system</td> <td></td> </tr> <tr> <td>A computerised central heating system</td> <td></td> </tr> <tr> <td>Clearing cheques in a bank</td> <td>✓</td> </tr> <tr> <td>Printing credit card bills</td> <td>✓</td> </tr> <tr> <td>Inputting data from OMR exam papers</td> <td>✓</td> </tr> <tr> <td>A microprocessor controlled washing machine</td> <td></td> </tr> </tbody> </table>	A computerised hotel booking system		A computerised central heating system		Clearing cheques in a bank	✓	Printing credit card bills	✓	Inputting data from OMR exam papers	✓	A microprocessor controlled washing machine		[3]						
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4	<ul style="list-style-type: none"> • Magnetic tape....is used to back up data from file servers. • OCR....is used to convert a scanned image to a text file. • A graphics tablet...is used to input drawings to a computer. 	[5]																		

Q	Mark Scheme	Marks																				
	<ul style="list-style-type: none"> • ROM.....is used to store the BIOS of a computer system. • A memory stickis used to store work so that you can take it home from school. 																					
5	<table border="1"> <thead> <tr> <th>Data</th> <th>Normal</th> <th>Abnormal</th> <th>Extreme</th> </tr> </thead> <tbody> <tr> <td>10</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>100</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>350</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Ten</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table>	Data	Normal	Abnormal	Extreme	10		✓		100			✓	350	✓			Ten		✓		[4]
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7	(a) Bar code reader/bar code scanner	[1]																				
	(b) Check digit/length check.	[1]																				
	(c) Magnetic stripe reader/chip and pin (machine).	[1]																				
	<p>(d) Two from:</p> <ul style="list-style-type: none"> • Account/card number • Sort code/bank number • Expiry date • Issue number • Start date • PIN. 	[2]																				

Q	Mark Scheme	Marks
8	Bus Star Ring.	[3]
9	(a) One from: <ul style="list-style-type: none"> • Questionnaire • Observation • Looking at documents. 	[1]
	(b) Two from: <ul style="list-style-type: none"> • If lots of people... ...would take too long • Where people are not in one place for long enough... ...would be difficult to pin them down • Don't always tell the truth/tell you what you want to hear. 	[2]
10	(a) <u>Encryption</u> Two from: <ul style="list-style-type: none"> • Causes data to be scrambled/encoded/change into code • Requires an (encryption) key/software to encrypt • Requires a (decryption) key/encryption software to decrypt • Results in data which is not understandable/readable. 	[2]
	(b) <u>Passwords</u> Two from: <ul style="list-style-type: none"> • Confirms user to system/authentication technique • Prevents unauthorised access <u>because</u> other people won't know it/ only person with password can access data • Data entered is compared to pre-stored data • If it doesn't match entry is blocked • Only allowed three attempts • Never reveal password to anyone • Password should be regularly changed./ should not be easy to guess/should consist of letters and numbers 	[2]

Q	Mark Scheme	Marks												
	<p>(c) Biometric data Two from:</p> <ul style="list-style-type: none"> • Retina/fingerprint etc scanned • Compared with pre-stored data • Identifies user to system/authentication technique • Prevents unauthorised access as other people won't have same retina/fingerprints 	[2]												
11	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 2px;">Readings are more accurate</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">The situation is too dangerous for humans</td> <td style="text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Computers can't take readings regularly</td> <td style="text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">Computers don't forget to take readings</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">Computers can react a lot quicker to a situation than humans</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">Humans do not need to take breaks</td> <td style="text-align: center; padding: 2px;"></td> </tr> </tbody> </table>	Readings are more accurate	✓	The situation is too dangerous for humans		Computers can't take readings regularly		Computers don't forget to take readings	✓	Computers can react a lot quicker to a situation than humans	✓	Humans do not need to take breaks		[3]
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12	<p>Three from: One for naming feature, one for expansion</p> <ul style="list-style-type: none"> • Sound/music – could have background music/ talking/ helps visually impaired/ any reasonable example • Video – could have films of performances etc • (Hyper)links/drop-down menus – can move from one place to another/ can move from page to page/can move to another website • Animation – could have moving text • Slideshow – any suitable example • Search engine – can find items. • Blogs/message boards/forums/ -diary of school events/discuss school issues • Pop ups – newsflashes/imminent school closure • Downloads – exam papers/timetables/any other suitable example • Interactive elements – quiz/any other suitable example 	[6]												

Q	Mark Scheme	Marks
13	<p>Three from:</p> <ul style="list-style-type: none"> • WAN is wide area network • LAN is a local area network • Data transmission rates of a WAN tend to be slower than those of a LAN • LAN is usually found within a building/a site/a school • WAN is spread over a much larger area • WAN can communicate via satellite/public communication system. 	[3]
14	<p>(a)</p> <p>Three from:</p> <ul style="list-style-type: none"> • Teleworking is working from home/remotely • Being in direct communication with organisation/head office/manager <ul style="list-style-type: none"> using video conferencing using phone/fax/PC/Modem/printer using email/internet browser/spreadsheet/ database/word processor 	[3]
	<p>(b)</p> <p>Six from:</p> <ul style="list-style-type: none"> • Less money spent on travel/More disposable income • Less time spent on travel • More time for leisure activities • Can spend more time with family • Can work when it suits/flexible hours • Doesn't have to get up so early • Can work at own pace • May be fewer distractions • Less (traffic) pollution/lower carbon footprint • Less traffic congestion • Less stress because less driving in rush hour. • Don't have to live close to work. • Easier for disabled people/housebound 	[6]

2359/02 Paper 3 (Higher)

Question		Expected Answer	Marks
1	(a)	<p><u>Encryption</u> Two from:</p> <ul style="list-style-type: none"> • Causes data to be scrambled/encoded/change into code • Requires an (encryption) key/software to encrypt • Requires a (decryption) key/encryption software to decrypt • Results in data which is not understandable/readable. 	[2]
	(b)	<p><u>Passwords</u> Two from:</p> <ul style="list-style-type: none"> • Confirms user to system/authentication technique • Prevents unauthorised access <u>because</u> other people won't know it/ only person with password can access data • Data entered is compared to pre-stored data • If it doesn't match entry is blocked • Only allowed three attempts • Never reveal password to anyone • Password should be regularly changed./ should not be easy to guess/should consist of letters and numbers 	[2]
	(c)	<p><u>Biometric Data</u> Two from:</p> <ul style="list-style-type: none"> • Retina/fingerprint etc scanned • Compared with pre-stored data • Identifies user to system/authentication technique • Prevents unauthorised access as other people won't have same retina/fingerprint 	[2]

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2	<table border="1"> <tr> <td>Readings are more accurate</td> <td>✓</td> </tr> <tr> <td>The situation is too dangerous for humans</td> <td></td> </tr> <tr> <td>Computers can't take readings regularly</td> <td></td> </tr> <tr> <td>Computers don't forget to take readings</td> <td>✓</td> </tr> <tr> <td>Computers can react a lot quicker to a situation than humans</td> <td>✓</td> </tr> <tr> <td>Humans do not need to take breaks</td> <td></td> </tr> </table>	Readings are more accurate	✓	The situation is too dangerous for humans		Computers can't take readings regularly		Computers don't forget to take readings	✓	Computers can react a lot quicker to a situation than humans	✓	Humans do not need to take breaks		[3]
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Question	Expected Answer	Marks
6	<p>Six from:</p> <ul style="list-style-type: none"> • Verification is checking that data has been <u>transferred</u> accurately • is comparing two versions • checks the two copies are the same • by visually comparing • two versions typed in by separate people/double entry • computer compares versions • One mark available for suitable verification example • Validation is checking that data is <u>reasonable</u> • Is checking that data obeys the validation rules • Is checking usually one version of the data • performed by computer on input data • using checks such as range check/ length check/ check digit/ format (picture check/input mask)/ type check. • description/example of one validation check 	[6]
7	<p>Seven from:</p> <ul style="list-style-type: none"> • Parallel running/running old and new systems together • You always have a backup of the old system if something goes wrong • Have to pay two sets of workers • Takes time as two sets of data have to be processed • Allows users to become familiar with the new system as mistakes are not crucial • Pilot running/only implemented for part of the new system (same points as for parallel running) • Still have most of system if things go wrong • Direct changeover/replacing the old system by the new system immediately* • Benefits of new system can be seen immediately • Is the quickest method of implementation • Do not have expense of running two systems together • Phased implementation/One branch of company uses new system • If it breaks down most of company carries on as normal. 	

Question	Expected Answer	Marks
	<p>Max 6 if less than 3 methods mentioned. One mark for a reasoned conclusion, max 7.</p>	[7]
8	<p>Eight from: Advantages</p> <ul style="list-style-type: none"> • Robots are more accurate than humans • Can get into (confined) areas that humans find difficult • Can work in hazardous environments • Finished product is more consistent • Don't take breaks/can work 24/7 • Don't need paying. • Technical jobs created <p>Disadvantages</p> <ul style="list-style-type: none"> • Expensive to set up/maintenance costs/repair costs • Are not adaptable to new situations • Can only perform one task • Cause human unemployment • Cause humans to need to retrain • Humans can be deskilled <p>One for reasoned conclusion.</p>	[8]
9	<p>Four from:</p> <ul style="list-style-type: none"> • Doctors interviewed for requirements • Data is collected from experts • Data is entered into system • Knowledge base is designed/created • Rule base is designed/created • Inference engine is designed/created • Input Screen/questions is/are designed/created • Output format is designed/created. • System is tested 	[4]

Question	Expected Answer	Marks
10	<p>Eight from:</p> <ul style="list-style-type: none"> <li>• CD/Floppy/DVD/memory stick/mp3/magnetic tape/flash memory are small and easy to carry/portable hard disc drive/Zip/Jaz drives are larger and not as easy to carry <li>• Floppy disc/CD/DVD/ are cheap media/memory stick /mp3 /Zip/Jaz/magnetic tapes/portable hard disc/flash memory can be expensive <li>• Multiple floppy discs might prove too expensive for holding a lot of data <li>• CD/DVD/Jaz/Zip /Memory stick/MP3/flash memory have a sufficiently large storage capacity <li>• portable hard disc/ magnetic tape drives might be too large <li>• floppy discs might be too small <li>• Floppy disc and Portable hard disc are more vulnerable than the others in repeated use <li>• Portable hard disc are harder to lose compared to the others <li>• Magnetic tape has slower access times compared with other media <li>• Portable hard disc are fast to transfer data/ printing and then retyping or scanning in hard copy is the slowest method compared with the others <li>• A floppy disc drive/Zip drive/Jaz/CD drives/tape drives/flash memory are not usually present in school computers <li>• Computers usual have a USB port <p>One mark is available for reasoned conclusion.</p>	[8]

Grade Thresholds

General Certificate of Secondary Education
ICT A (1094/1994)
June 2009 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
2357F	Raw	60				35	31	27	24	21	0
	UMS	55				48	40	32	24	16	0
2357H	Raw	60	34	29	24	20	14	11			0
	UMS	80	72	64	56	48	40	36			0
2358	Raw	60	58	53	45	38	32	26	20	14	0
	UMS	120	108	96	84	72	60	48	36	24	0
2359F	Raw	60				28	24	21	18	15	0
	UMS	55				48	40	32	24	16	0
2359H	Raw	60	34	28	22	16	11	8			0
	UMS	80	72	64	56	48	40	36			0
2360	Raw	60	53	45	36	28	24	21	18	15	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	2.65	12.6	30.47	51.86	67.85	78.77	87.36	94.21	100.0	18964
1994	4.13	17.66	42.63	67.5	81.36	89.8	95.34	98.46	100.0	12415

For a description of how UMS marks are calculated see;
http://www.ocr.org.uk/exam_system/understand_ums.html

Statistics are correct at the time of publication

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