



GCSE MARKING SCHEME

**INFORMATION AND COMMUNICATION
TECHNOLOGY (NEW)**

SUMMER 2011

INTRODUCTION

The marking schemes which follow were those used by WJEC for the Summer 2011 examination in GCSE INFORMATION AND COMMUNICATION TECHNOLOGY. They were finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conferences were held shortly after the papers were taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conferences was to ensure that the marking schemes were interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conferences, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about these marking schemes.

Question	Answer	Max mark								
1(a)	<p>One mark for each for each correctly ticked box</p> <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td style="width: 30px; height: 30px;"></td></tr> <tr><td style="text-align: center;">2 ✓</td></tr> <tr><td style="text-align: center;">3 ✓</td></tr> <tr><td style="width: 30px; height: 30px;"></td></tr> <tr><td style="text-align: center;">5 ✓</td></tr> <tr><td style="text-align: center;">6 ✓</td></tr> <tr><td style="width: 30px; height: 30px;"></td></tr> <tr><td style="width: 30px; height: 30px;"></td></tr> </table> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p><i>If tick all boxes no marks If tick five boxes then max three marks If tick six boxes then max two marks If tick seven boxes then max one mark</i></p> </div>		2 ✓	3 ✓		5 ✓	6 ✓			4
2 ✓										
3 ✓										
5 ✓										
6 ✓										
1(b)(i)	<p>One mark for correct ticked box</p> <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td style="width: 30px; height: 30px; text-align: center;">1 ✓</td></tr> <tr><td style="width: 30px; height: 30px;"></td></tr> <tr><td style="width: 30px; height: 30px;"></td></tr> </table> <p><i>If tick more than one box no mark</i></p>	1 ✓			1					
1 ✓										
1(b)(ii)	Spell check / Spellchecking / Spellchecker	1								

1(c)	<p>1 mark for type of software x 2 1 mark for use (purpose or data <u>not audience alone</u> x 2)</p> <p>NO BRAND NAMES NOTE parts must match but do not penalise second if first part wrong e.g. Word / internet Software Example Database Store details of walkers / pupils / marshals / sponsors / parents / etc NOT just 'store data' NOT info NOT keep data safe</p> <p>Computer Control Tags / automatic counters / etc</p> <p>Spreadsheets Profit/loss / how much money they make / produce a graph of income / profits / keep track of the money</p> <p>Presentation software / slideshow / multimedia software Make a presentation to advertise the walk / advertise route NOT just 'to advertise' - too general and could be DTP. NOT just 'to show advertising' NOT just 'to create a presentation'</p> <p><i>Must at least have a second part that is related to the sponsored walk or presentation software e.g. advertise the sponsored walk with animations and sound would be ok</i></p> <p>To train marshals create movies / animations to put in presentation on website / TV</p> <p>NOT just create videos NOT just take photos / show photos / look through pictures NOT 'create website / create slideshow / create presentation' needs qualification NOT anything that could DTP e.g. advertise / produce an advert</p> <p>Web authoring Create / maintain website to advertise the sponsored walk</p> <p>Photo editing / graphics Edit photos / Touch up pictures to improve them Draw map of course / create logos / images</p> <p>Video editing software Video play</p> <p>Wordprocessing Letters confirming walk, for use in mailmerging / email Condoned: 'send letters to children / parents' NOT write letters / type letters / write to parents - MUST say about what / NOT posters</p> <p>Email software Email details to pupils/parents/marshals / Contact pupils/parents/marshals</p> <p>Virus protection/firewall software Protect personal data</p>	4									
2	<p>One mark for each correct ticked box</p> <table border="1"> <tr> <td>1 ✓</td> <td>4</td> <td>7</td> </tr> <tr> <td>2</td> <td>5 ✓</td> <td>8</td> </tr> <tr> <td>3</td> <td>6</td> <td>9 ✓</td> </tr> </table> <div style="border: 1px solid black; padding: 5px;"> <p><i>If tick all boxes no marks</i> <i>If tick two or three boxes in a row, i.e.</i> <i>1, 4 and 7</i> <i>2, 5 and 8</i> <i>3, 6 and 9</i> <i>then no mark for that row</i></p> </div>	1 ✓	4	7	2	5 ✓	8	3	6	9 ✓	3
1 ✓	4	7									
2	5 ✓	8									
3	6	9 ✓									
3(a)(i)	<p>One mark for: idea of better quality pictures/photographs e.g. more clearly defined photos / if blown up to a large size won't be as blurred Bluetooth (connectivity)</p>	1									

3(a)(ii)	<p>One mark for: Flash memory too small to take advantage of greater megapixels Slower / takes longer to upload / transfer Can store less photos Takes up more space in memory NOT 'space on the phone' without reference to storage</p>	1
3(b)	CAO WiFi	1
3(c)	<p>One mark each for two of: Locates where you are (locate me) Gives directions from position A to B / Plan a route Can use it (in a car) instead of a satellite navigation system Gives estimated time from A to B / choose shortest/quickest/cheapest route Can show maps of the area / view a place before you arrive/ birds eye view Can track your phone if you lose it / Can be tracked if lost</p> <p>NOT general advantages of mobile phones e.g. Easier to carry / can take it anywhere</p>	2
3(d)	<p>One mark for: Can share photos / videos / games / music / files / contact details Can connect to another phone / pc Hands free connection while using the phone in the car <i>or similar</i> NOT share things</p>	1
4(a)	<p>One mark for: CAO 50</p>	1
4(b)	<p>One mark for: CAO 15</p>	1
4(c)	<p>One mark for:</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">A</div> Or <div style="border: 1px solid black; padding: 2px 5px; margin-left: 5px;">B</div> </div>	1
4(d)	<p>One mark for: =F4-E4 or equiv =SUM(F4-E4) = F4-(B4+C4+D4) (Needs brackets) = F4-SUM(B4:D4) (= not necessary)</p>	1
4(e)	<p>One mark each for two of: Accurate/correct calculations Automatic <u>re</u>calculation Save formula and data Do 'what ifs' Draw graphs NOT 'can do sums' NOT 'faster' NOT 'easier' NOT just Automatic calculations</p>	2
5(a)	<p>One mark for: CAO 8</p>	1
5(b)	<p>One mark for: CAO 2</p>	1

5(c)	<p>One mark for either of: Saves memory NOT 'space' Saves time typing it in / faster to type in More data can be displayed on screen Security if qualified, e.g. less mistakes / fewer mistakes / less chance of error Faster to search if qualified e.g. to find fuel/match in table</p> <p>Condone(validation) e.g. you can select from a list / only 2 choices</p> <p>NOT easier to search NOT just 'hacking' NOT so you know if they are diesel or petrol NOT easy to read D or P NOT just 'quick and easy' NOT 'don't have to write whole word' NOT 'faster' NOT 'saves time' NOT easier NOT simple to write NOT 'shorter for diesel and petrol'</p>	1									
5(d)	<p>One mark for each correct field and search criteria x 2 One mark if both fields are correct but search criteria incorrect One mark if both search criteria are correct but fields are incorrect Search criteria must be spelt correctly</p> <table border="1"> <thead> <tr> <th>Field</th> <th>Logical operator</th> <th>Search criteria</th> </tr> </thead> <tbody> <tr> <td>Colour</td> <td>=</td> <td>GREY</td> </tr> <tr> <td>Type</td> <td>=</td> <td>SALOON</td> </tr> </tbody> </table>	Field	Logical operator	Search criteria	Colour	=	GREY	Type	=	SALOON	2
Field	Logical operator	Search criteria									
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6(a)	<p>One mark each for two of: Using icons / weather symbols video / animations / simulations / games Text / messages about the weather Numbers / spreadsheets / tables / database Maps / satellite</p>	2									
6(b)	<p>One mark each for two of: Collected at exactly correct time / collected accurately Data can be collected from remote and dangerous places Data can be / recorded accurately Data can be transmitted by radio/satellite communication Monitor 24/7 / Humans don't need to be there / Data collected / updated automatically Can process large amounts of data DO NOT ACCEPT ONE WORD ANSWERS</p>	2									
7	<p>One mark for each description x 3</p> <p>TEMPERATURE and HUMIDITY are normal / both ok / average / perfect conditions TEMPERATURE is high / too hot and HUMIDITY is normal / ok / average / perfect conditions TEMPERATURE is high / too hot and HUMIDITY is high / too wet or Both are too high</p> <p>Accept too hot/cold but NOT too cold on its own NOT low, for any answer</p>	3									

8(a)	<p>One mark each for two of: Simulations Animations / videos Drill and practice tests / quizzes/ exam style questions Helpfiles Sound / podcasts Examples of interactivity / feedback</p>	2								
8(b)(i)	CAO Virtual Learning Environment	1								
8(b)(ii)	<p>One mark each for two of: Allows pupils or teachers to upload content / homework Allows parents / students / teachers to communicate Allows students to submit their work electronically Teachers set up blogs to discuss students work Monitor student progress / teachers check marks Times of rehearsals / meetings / practices / events / school trips Lunch menu List deadlines Sports results Rotas / calendars / inset days / exam dates Example of a message acceptable, e.g. "The hockey game has been postponed" Past exam papers / revision notes / revision classes Allow 'school closed due to snow' Links to related sites Pupils can catch up on lessons if missed / ill / absent</p> <p>NOT private data, e.g. names and address NOT 'information' unless context / purpose given with it</p>	2								
9(a)(i)	<p>One mark for each correct ticked box</p> <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="text-align: center;">1</td></tr> <tr><td style="text-align: center;">✓</td></tr> </table> <table border="1" style="display: inline-table; vertical-align: middle; margin-left: 20px;"> <tr><td style="text-align: center;">3</td></tr> <tr><td style="text-align: center;"> </td></tr> </table> <table border="1" style="display: inline-table; vertical-align: middle; margin-left: 20px;"> <tr><td style="text-align: center;">2</td></tr> <tr><td style="text-align: center;"> </td></tr> </table> <table border="1" style="display: inline-table; vertical-align: middle; margin-left: 20px;"> <tr><td style="text-align: center;">4</td></tr> <tr><td style="text-align: center;">✓</td></tr> </table> <div style="border: 1px solid black; padding: 5px; margin-left: 20px; width: fit-content;"> <p><i>If tick all boxes no marks If tick two boxes in a row, i.e. 1 and 3 2 and 4 then no mark for that row</i></p> </div>	1	✓	3		2		4	✓	2
1										
✓										
3										
2										
4										
✓										
9(a)(ii)	<p>Range check - 1 mark Expansion – 1 mark e.g. Software checks day is between 1-31 / less than 32 There are not 45 days in a month</p>	2								

9(b)	<p>RESPONSES MUST RELATE TO EMAIL NOT TO ONLINE COMMERCE</p> <p>One mark for advantage from: Cut down on mail costs i.e. paper, envelopes, stamps. Quicker responses from prospective customers Quicker response from the company to customer requirements Faster to send / faster to receive / quicker to deliver than post Record when sent / received Can be edited Can pick it up anytime / anywhere Attachments Ask for read receipt / notification of delivery Privacy - Can password protect Saves paper</p> <p>NOT cheaper NOT 'Quicker / faster' by itself NOT instantly by itself</p> <p>One mark for disadvantage from: Hardware / Website / crash problems Viruses / malware Fake websites Phishing scams SPAM / Junk mail Hacking Black hole syndrome / email might not arrive / not get through firewall</p> <p>NOT have no email address NOT have no computer NOT might not check email</p>	2												
10(a)	<p>One mark for each correct ticked box</p> <table border="1"> <tr><td>1</td><td>✓</td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td>4</td><td>✓</td></tr> <tr><td></td><td></td></tr> <tr><td>6</td><td>✓</td></tr> </table> <div style="border: 1px solid black; padding: 5px; margin-left: 200px;"> <p><i>If tick all boxes no marks</i> <i>If tick four boxes then max two marks</i> <i>If tick five boxes then max one mark</i></p> </div>	1	✓					4	✓			6	✓	3
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6	✓													

10(b)	<p>One mark for advantage to theatre from: Avoids double booking Easier to deal with queries from customers Wider audience Can book 24/7 / anytime</p> <p>NOT less staff NOT Money goes straight into account</p> <p>One mark for advantage to Mary from: Do NOT accept anything which could be done by phone Avoids double booking (ONLY accept once) Can book 24/7 (ONLY accept once) Can choose seat Compare prices to get best deal Easier for disabled who don't have to leave home to book Read online reviews before booking Can check availability before booking Save on travel costs (must be qualified) e.g. of going to the theatre to book Save travel time (must be qualified) e.g. rather than going to the theatre to book On-line discounts Can select alternative performances E-tickets</p> <p>NOT just 'easier to book'</p>	2
11(a)	<p>One mark for: Set a password / Network Key / Passcode / Encryption Key Set user access rights Install firewall</p> <p>NOT parental controls</p>	1
11(b)	<p>One mark for any of: Set access rights Set up privacy settings Use net nanny software Pop up blocker Parental controls / locks Monitor use Check history Block sites Use a filter on certain sites Internet security software</p> <p>Password (ONLY accept once)</p>	1
11(c)	<p>One mark each for two of: Information could be used to blackmail or bully / cyberbullying Could be subject to identity theft Internet grooming / Paedophiles</p> <p>Allow one mark ONLY for detailed description of the consequences of giving out personal details, e.g. The people they meet may wish to harm them and send them inappropriate messages. <i>Any reference to kidnap / stalking must be linked to the fact they have told people online where they are located.</i> <i>Any reference to burglary must be linked to the fact they have told people online that they are away from home.</i></p> <p>NOT hacking</p>	2

11(d)	<p>One mark each for two of: Shop 24/7 / 365 days Can find obscure products / wider selection available / greater choice Saves <u>travel time</u> Saves <u>travel costs</u> Disabled people can search for products more easily / facilitates shopping for disabled Can have a list of related or alternative products Read many comments about the product / get a rating Easier to compare prices / specifications / availability Choose delivery day / delivery options delivery times / can get it delivered Discounted products / Cheaper products because do not need retail space / Condone 'may be cheaper' Track order / track expected delivery Can reserve items NOT Easier, Cheaper, Faster unless explain why? e.g. can store card details so no need to enter them again next time NOT can do it from home NOT pollution</p>	2																				
11(e)	<p>One mark for each hazard and matching prevention.</p> <table border="1"> <thead> <tr> <th>Health hazard</th> <th>Prevention</th> </tr> </thead> <tbody> <tr> <td>Neck strain</td> <td>Have eyes at same level as screen Adjust monitor height / screen at suitable angle Use <u>adjustable</u> chairs NOT comfortable chair NOT correct posture NOT sit up straight</td> </tr> <tr> <td>Repetitive strain injury/ Carpel tunnel syndrome / wrist ache / wrist strain NOT arthritis</td> <td>Wrist and feet supports / arm supports Ergonomic keyboards Regular joint exercise Key in with your wrist straight NOT just 'take breaks' must have time element</td> </tr> <tr> <td>Epileptic fits</td> <td>Screens to reduce screen flicker</td> </tr> <tr> <td>Radiation</td> <td>Screen filters</td> </tr> <tr> <td>Eye strain / Straining of eyes Eye damage/sore eyes Eye + negative effect NOT 'square eyes' NOT eye problems</td> <td>Screen filters / take regular breaks / have eyes at same level as screen / adjust angle of screen / eyes at safe distance/look away / refocus eyes NOT Don't sit too close / don't sit too far away NOT wear glasses / go to opticians</td> </tr> <tr> <td>Headaches</td> <td>Take regular breaks / screen filters NOT take breaks - must have time element</td> </tr> <tr> <td>Circulation problems</td> <td>Take regular breaks NOT take breaks - must have time element</td> </tr> <tr> <td>Back problems / back ache</td> <td>Use <u>adjustable</u> chairs / foot supports Take regular breaks NOT comfortable chair NOT correct posture NOT sit up straight</td> </tr> <tr> <td>'Sick building' syndrome</td> <td>Better ergonomic design including lighting to reduce glare</td> </tr> </tbody> </table> <p><i>Do not give same prevention twice</i> <i>Prevention must match for second mark</i> NOT get fat / heart disease NOT Don't sit / spend too long at computer NOT electrocution NOT trip up over cables NOT spill drinks NOT Bacteria NOT couch potato syndrome</p>	Health hazard	Prevention	Neck strain	Have eyes at same level as screen Adjust monitor height / screen at suitable angle Use <u>adjustable</u> chairs NOT comfortable chair NOT correct posture NOT sit up straight	Repetitive strain injury/ Carpel tunnel syndrome / wrist ache / wrist strain NOT arthritis	Wrist and feet supports / arm supports Ergonomic keyboards Regular joint exercise Key in with your wrist straight NOT just 'take breaks' must have time element	Epileptic fits	Screens to reduce screen flicker	Radiation	Screen filters	Eye strain / Straining of eyes Eye damage/sore eyes Eye + negative effect NOT 'square eyes' NOT eye problems	Screen filters / take regular breaks / have eyes at same level as screen / adjust angle of screen / eyes at safe distance/look away / refocus eyes NOT Don't sit too close / don't sit too far away NOT wear glasses / go to opticians	Headaches	Take regular breaks / screen filters NOT take breaks - must have time element	Circulation problems	Take regular breaks NOT take breaks - must have time element	Back problems / back ache	Use <u>adjustable</u> chairs / foot supports Take regular breaks NOT comfortable chair NOT correct posture NOT sit up straight	'Sick building' syndrome	Better ergonomic design including lighting to reduce glare	8
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12	<p>10-13 marks Candidates give a clear, coherent answer fully and accurately describing how specialist devices and software support people with disabilities. They use appropriate terminology and accurate spelling, punctuation and grammar.</p> <p>6-9 marks Candidates describe some aspects of how specialist devices and software support people with disabilities but responses lack clarity. There are a few errors in spelling, punctuation and grammar</p> <p>1-5 marks Candidates simply give a brief description of how a few specialist devices or software can support people with disabilities. The response lacks clarity and there are significant errors in spelling, punctuation and grammar.</p> <p>0 marks No valid response.</p> <p>Guidance One mark for each point relating to different learning devices, voice software and customised desktops. Additional marks for development, expansion or good example. Examples of expansion – the disability or specific use or benefits.</p> <p>Indicative content</p> <p style="text-align: center;"><u>Learning devices</u></p> <p>Microphones for disabled people who cannot use keyboards Roller balls / tracker balls Touch sensitive screens - people with poor coordination Braille keyboards - for blind or partially sighted Pointing devices Coloured screen filters Large keyboards / concept keyboards</p> <p style="text-align: center;"><u>Voice Software</u></p> <p>Voice recognition software – text to voice Recognition of the spoken word - voice to text enter text into word processor. enter text into emails. issue commands to operating system</p> <p style="text-align: center;"><u>Customised desktops</u></p> <ul style="list-style-type: none"> - change to font size for partially blind - standardised for autistic children - larger display <p style="text-align: center;"><u>Other devices</u></p> <p>Mouse settings - slow down mouse speed for mobility impaired</p> <p>Accept other devices if well explained and plausible</p> <p><u>DO NOT</u> give marks for the headings underlined as they are the headings given in the questions</p>	13
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