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# **GCSE MARKING SCHEME**

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**SUMMER 2017**

**INFORMATION & COMMUNICATION TECHNOLOGY  
UNIT 1: UNDERSTANDING ICT  
4331/01**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2017 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was 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 conference was to ensure that the marking scheme was 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' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

## Online marking

WJEC will be using a method of marking examination scripts known as e marker ® for this paper. Under this system, candidates' scripts are scanned and then transmitted to examiners electronically via the internet. Examiners mark on-screen; marked responses and marks are then submitted electronically.

Whilst the basic principles remain unchanged, this method entails some important changes to the way the system operates when examiners mark on paper:

- Examiners do not mark complete scripts. Instead scripts are divided into segments by question (item), and are transmitted to examiners in this form. Therefore, each candidate's script will be marked by a number of different examiners.
- Examiners are required to complete an online standardising exercise. This involves the marking of a number of common candidate responses (roughly 10 of each item) which will be included in examiners' allocations at regular intervals during the process. Should marks given to these items fall outside the tolerance agreed by senior examiners on more than one occasion, examiners will be prevented from further marking of that item until the team leader has been able to resolve the issue.

In terms of technical requirements, examiners participating will need a personal computer running on Windows Version 7 and above and a broadband internet connection. With an Apple Mac a Windows emulator is required.

For further details, please see the user guide available on e-marker ® when you log on. Instructions on how to log on to the system and your username and password have been sent separately.

## GCSE INFORMATION & COMMUNICATION TECHNOLOGY

### SUMMER 2017 MARK SCHEME

Question	Answer	Max mark
1	<p><b>One mark for each for each of the following up to a maximum of five</b></p> <p>2 3 5 7 10</p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-left: 150px;"> <p><i>If more than one box in a row ticked – no marks</i></p> </div>	5
2	<p><b>Data: 31</b> <b>Condone: 31 in a range (e.g.16, 19, 25, 31)</b></p> <p><b>Information: 31 °C</b> <b>Condone: 31 °C in a range (e.g. 16°C, 19°C, 25°C, 31°C)</b></p> <p>Example must link to question (data must contain 31, information must contain 31°C or similar (e.g. 31 degrees Celsius)</p> <p>Do NOT accept numbers above 31</p>	2
3(a)	<p>Messages sent <u>between</u> users/computers/devices (1) across network / via Internet (1)</p> <p>Example of one mark answer Electronic messages (1)</p> <p><b>NOT</b> 'messages sent by a computer'</p>	2
3(b)	<p>One mark for one of the following</p> <p>Sending a party invite out to relatives Getting an insurance quote Sending photos to a friend in Australia Receiving vouchers / offers for restaurants Receiving online shopping confirmation Notifications on sports club information</p> <p>Any reasonable answer that includes a concrete example. MUST have a context</p> <p>NOT just 'send a message'/'send a letter'/not just 'send an attachment' NOT just send a file</p>	1
3(c)	<p><b>One mark for one of the following</b></p> <p>Faster than post to deliver Quicker responses Record when sent / received Can be edited / collaborative working Group emails/ CC – save rewriting the same message Can <u>pick it up anytime</u> / anywhere Can keep in touch with friends and family across the world Ask for read receipt / notification of delivery Can use an address book to quickly contact people Privacy - Can password protect Saves paper Attachments can be sent Can be accessed from a wide variety of devices Environmentally friendly, reduces carbon emissions as not physically transported</p> <p><b>NOT</b> 'instantly' by itself <b>NOT</b> "It's faster" – must be qualified <b>NOT</b> Low cost/ Cuts down on mail costs – stamps/envelopes <b>NOT</b> send 24/7</p>	1

3 (d)(i)	Phishing <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>3</td></tr></table> <table border="1" style="display: inline-table; vertical-align: middle; margin-left: 20px;"><tr><td><i>If more than one box ticked – no marks</i></td></tr></table>	3	<i>If more than one box ticked – no marks</i>	1							
3											
<i>If more than one box ticked – no marks</i>											
3(d)(ii)	<b>One mark for each of the following up to a maximum of two</b> Email is not from an official world bank address/no personal email so no sender can be identified No name in the To: box / Dear Sir (not personal) Spelling mistakes / capital letter errors Unprofessional layout / formatting errors Contraction (e.g. 'u') / colloquialism 'no worries' Asking for bank details / requesting username and password Out of date – 2015	2									
3(d)(iii)	One mark for one of the following Set up a spam filter / privacy settings Ignore it Block it Don't click on any link Don't reply/give account details Report it Inform your bank Delete it	1									
4(a)	1	1									
4(b)	One mark for each of the following Owner ID (1) To uniquely identify the owner / unique identifier / uniquely identifies each record (1)	2									
4(c)	85	1									
4(d)	1 – Drop down list <table border="1" style="display: inline-table; vertical-align: middle; margin-left: 20px;"><tr><td><i>If more than one box ticked – no marks</i></td></tr></table>	<i>If more than one box ticked – no marks</i>	1								
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4(e)	<b>One mark for each</b> correct field and search criteria x2 <b>One mark if</b> both fields are correct but search criteria incorrect <b>One mark if</b> both search criteria are correct but fields are incorrect  Search criteria must be spelt correctly  <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Field</th> <th style="text-align: center;">Logical Operator</th> <th style="text-align: center;">Search Criteria</th> </tr> </thead> <tbody> <tr> <td>Pet Type</td> <td style="text-align: center;">=</td> <td>Dog</td> </tr> <tr> <td>Shampoo?</td> <td style="text-align: center;">=</td> <td>Y</td> </tr> </tbody> </table>	Field	Logical Operator	Search Criteria	Pet Type	=	Dog	Shampoo?	=	Y	2
Field	Logical Operator	Search Criteria									
Pet Type	=	Dog									
Shampoo?	=	Y									
4(f)	[Date of Last Visit]+30 field name + 30 is needed, <b>CONDONE</b> syntax not required e.g. will accept 30 days	1									
5(a)	<b>B</b> =SUM(B4:B13)	1									
5(b)	<b>E14-E15</b> <b>SUM(E4:E13)-E15</b> <b>E4+E5+E5+E6+E7+E8+E9+E10+E11+E12+E13-E15</b> <b>SUM(E4:E13)*0.85</b> <b>(E4+E5+E5+E6+E7+E8+E9+E10+E11+E12+E13)*0.85 - must have brackets</b>	1									

5(c)	<b>MIN</b>	<b>1</b>
5(d)	<p>=B14*0.15  =(B14/100)*15  = B14*15%</p> <p>Accept =SUM(B4:B13) or =B4+B5+B6+B7+B8+B9+B10+B11+B12+B13 in place of B14 above.</p> <p>Accept any working answer</p>	<b>1</b>
5(e)	<p>=IF(E16&lt;=\$B\$1,"In Budget","Over Budget") (must have = after &lt;)</p> <p>Or</p> <p>=IF(E16&gt;\$B\$1,"Over Budget","In Budget")</p> <p>Must have " " around In Budget/ Over Budget</p>	<b>1</b>
5(f)	<p>One mark for each of the following up to a maximum of two</p> <p>Accurate/correct calculations  Automatic <b>re</b>-calculation  Save formula and data  Draw graphs  Replication  Use macros to navigate quickly  Faster to sort into order</p> <p>Accept any reasonable advantage but not just a use</p> <p>NOT 'can do sums'  NOT 'faster'  NOT 'easier'  NOT What-if scenarios  NOT just Automatic calculations</p>	<b>2</b>
6	<p>Any method and matching advantage and disadvantage (x2) from:</p> <p><b><u>Smart Cards / Swipe cards / Key Cards</u></b>  <b>Advantages</b>  Can be used for many other school facilities – e.g. library, canteen and access to buildings  Cost can be lower than other methods of registration / Relatively cheap method of registration  Instant registration / results get sent to office immediately / real time  Frees up teachers time' only if well qualified</p> <p><b>Disadvantages</b>  Can be lost easily  Can be used by pupil's friends to swipe them in / truancy</p> <p><b>OMR</b>  Mark made on sheet about whether absent or present</p> <p><b>Advantages</b>  Cost can be lower than other methods of registration</p> <p><b>Disadvantages</b>  Damaged sheets or sheets with extra marks causes delays / have to be entered manually  Takes up teaching time / staff time due to completing forms and taking to office Staff training  Not in real time</p>	<b>6</b>

	<p><b>Online Registration</b> / Admin Software on a PC / MIS</p> <p><b>Advantages</b>  Cost can be lower than other methods of registration  Instant registration / results get sent to office immediately / real time  Reason for absence can be entered via a code  All teachers can view daily absence records</p> <p><b>Disadvantages</b>  Takes up teaching time / staff time due to register calling and entering codes  Staff training required</p> <p>Others include RFID tags or radio systems</p> <p><b>NOT</b> spreadsheet / database to register pupils</p> <p>One mark for any of the general advantages and disadvantages</p> <p><b>General advantages applying to all systems</b>  Accurate attendance figures  Reduces truancy  Attendance figures worked out automatically  Always know where pupils are  Can study trends and patterns of attendance / know if pupils are frequently late and absent  Automatic SMS messages to parents</p> <p><b>General Disadvantages</b>  Reliance on system</p> <p><b>NO</b> repeated advantages and disadvantages</p>	
7(a)	<p><b>One mark for each of the following up to a maximum of three</b></p> <p>Heat /temperature sensor/thermistor  Light sensor  Sunshine hours / intensity / pyranometer  Humidity / Moisture / Hygroscope  Rainfall sensor  Wind speed /Wind direction / Anemometer  pH sensor</p> <p>Atmospheric pressure sensor / Air pressure (Not just pressure sensor on its own) / barometer</p>	<b>3</b>
7(b)	<p>1  2  5</p>	<b>3</b>
7(c)	<p>One mark for each of the following up to a maximum of three:</p> <p>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  Planning / Scheduling activities</p> <p><b>DO NOT ACCEPT ONE WORD ANSWERS</b></p> <p>One mark for any <b>one disadvantage</b> from the following:</p> <p>Initial cost of the equipment / maintenance costs  Over reliance on the system / signal issues / faulty equipment  Faulty calibration  Not 100% accurate  User training – not just training</p>	<b>4</b>

8	<p><b>One mark for each of the following up to a maximum of 3:</b></p> <p>Mouse settings  Keyboard type  Window sizes  Icon sizes  Shortcuts  Narrator  Text sizes  Change the way folders are displayed  Change the colour of an object  Change the background (e.g. photo)  Set up parental controls / different users can have different desktops  Password settings  Add gadgets/widgets/alerts  Resolution settings  Startup programs</p> <p><b>Any reasonable answer</b></p>	3												
9	<p>Needs both the problem <b>and</b> cause X 3 <b>No marks for simply naming health risk</b>, must be a description  Matching Prevention X 3  <b>(Preventions must be different)</b></p> <p><b>NOT obesity</b></p> <table border="1"> <tr> <td>Eye strain from staring at monitor for too long (ONLY accept eye strain)</td> <td>Take regular breaks Environment change Focus on distant object Screen filters</td> </tr> <tr> <td>RSI from continuously typing</td> <td>Ergonomic controllers/ keyboards Regular joint exercise Wrist and feet support</td> </tr> <tr> <td>Backache from staying in the same position</td> <td>Use an adjustable chair (<b>NOT</b> comfortable or suitable chair) Take regular breaks Foot stools</td> </tr> <tr> <td>Addiction – can't stop playing the games</td> <td>Take regular breaks/ Parental monitoring</td> </tr> <tr> <td>Headaches from using a screen that is too bright</td> <td>Take regular breaks Screen filters Environment change</td> </tr> <tr> <td>Neck strain from keeping your neck in the same position for too long</td> <td>Have eyes at the same level as monitor Use adjustable chairs Adjust monitor height/ screen at suitable angle</td> </tr> </table>	Eye strain from staring at monitor for too long (ONLY accept eye strain)	Take regular breaks Environment change Focus on distant object Screen filters	RSI from continuously typing	Ergonomic controllers/ keyboards Regular joint exercise Wrist and feet support	Backache from staying in the same position	Use an adjustable chair ( <b>NOT</b> comfortable or suitable chair) Take regular breaks Foot stools	Addiction – can't stop playing the games	Take regular breaks/ Parental monitoring	Headaches from using a screen that is too bright	Take regular breaks Screen filters Environment change	Neck strain from keeping your neck in the same position for too long	Have eyes at the same level as monitor Use adjustable chairs Adjust monitor height/ screen at suitable angle	3x2
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10(a)	<p>Only one mark for any one of the following</p> <ul style="list-style-type: none"> <li>Search Box / Bar (to enter key word searches)</li> <li>Hotspots</li> <li>Hyperlinks</li> <li>Drop down menus</li> <li>Using the menus to navigate to the song/ album</li> <li>Scanning QR codes</li> </ul>	<b>1</b>
10(b)	<p>One mark for each of the following up to a maximum of 3</p> <ul style="list-style-type: none"> <li>A fast download speed can mean music is received almost instantly</li> <li>Can select which tracks to download so cheaper than downloading whole album</li> <li>Can access / get files 24/7</li> <li>Can read online reviews before purchasing</li> <li>Preview the song before buying</li> <li>Use price comparison websites to save money</li> <li>Saves time as do not have to go to shops to buy</li> <li>Saves money / travel costs as do not have to go to shops to buy</li> <li>Saves money as family sharing an account</li> <li>Increased access to a wider range e.g. the number of websites or variety of music styles</li> <li>Empowers the disabled</li> <li>Recommendations on what music to listen to</li> </ul> <p><b>NOT</b> can be used on multiple devices</p>	<b>3</b>
10(c)	<p><b>One</b> mark for a disadvantage from:</p> <ul style="list-style-type: none"> <li>Illegal downloads harm the music and film industries</li> <li>Viruses can be introduced</li> <li>Security issues online e.g. hacking, phishing / could take credit card details</li> <li>File content may be different from stated name</li> <li>Breaking the Copyright Act</li> <li>May lead to music shop closure</li> </ul> <p><b>No marks for hardware problems</b></p>	<b>1</b>

11	<p>Any <b>two</b> uses (2) and advantages and disadvantages (6)  At least two advantages and two disadvantages for maximum marks.  Advantages and disadvantages <b>must be different</b>.</p> <p><b><u>Social Networking</u></b></p> <p><b>Uses</b></p> <ul style="list-style-type: none"> <li>Upload photos</li> <li>Livestreaming of events</li> <li>Share videos/photos</li> <li>Feedback on posts</li> <li>Write posts</li> <li>Change personal information / privacy settings</li> <li>Join groups</li> <li>Create events</li> <li>Follow celebrities</li> <li>Chat / send instant messages</li> <li>Search for people / companies / events</li> <li>Use of games</li> <li>Buying / Selling of items</li> </ul> <p><b>Any reasonable usage not covered by the list above</b></p> <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>Can keep in touch with friends all over the world</li> <li>Can let large groups know about events quickly (e.g. birth of a child) which takes less time than contacting each one individually</li> <li>Can make new friends based on interest groups</li> <li>Can vote on products/services to let others know your opinion</li> <li>Can see others opinions on products/services to help with choice</li> <li>Can save money on phone calls by using chat</li> <li>Using video chat you can see the person as well as hear them</li> <li>Always someone available to talk to</li> <li>Generate income</li> </ul> <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>Paedophiles / Stalkers / groomers may gain access to the images</li> <li>Employers can view your comments and could lead to a dismissal</li> <li>Sharing too much information</li> <li>Burglars can see Holiday status updates</li> <li>Identity theft</li> <li>You can be identified from your images</li> <li>Exercising undue influence / radicalisation</li> <li>Advertising</li> <li>Cyberbullying / Trolling</li> <li>Inappropriate images / videos</li> <li>Fake news / unreliable sources</li> <li>Fake profiles</li> </ul>	8
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12	<p><b>9-12 marks</b> Candidates give a clear, coherent answer fully and accurately giving software and describing exactly how it would be used. They use appropriate terminology and accurate spelling, punctuation and grammar.</p> <p><b>5-8 marks</b> Candidates give some examples of software used and a matching description of use, but responses lack clarity. There are a few errors in spelling, punctuation and grammar</p> <p><b>1-4 marks</b> Candidates give at least one software and example of use. The response lacks clarity and there are significant errors in spelling, punctuation and grammar.</p> <p><b>0 marks</b> No valid response.</p> <p><b>Guidance</b></p> <p><b>One mark for each software (Max 4)</b>  <b>One mark for each use for each software type (x2), up to a maximum of two for each software type (Max 4x2)</b></p> <p><b>Any reasonable usage for software in the context of a school trip</b></p> <table border="1"> <tr> <td>Database software</td> <td>To record students going on the trip To record equipment needed for the trip To record staff members accompanying students <b>NOT</b> just 'store data' <b>NOT</b> info <b>NOT</b> keep data safe</td> </tr> <tr> <td>Spreadsheet software</td> <td>To calculate trip payments Profit/Loss Budget for the trip Trip sponsor money <b>NOT</b> just "accounts"</td> </tr> <tr> <td>Presentation software/ slideshow / multimedia software</td> <td>To create a presentation to play in assembly advertising the trip <b>NOT</b> just 'to advertise' - too general. <b>NOT</b> just 'to show advertising' <b>NOT</b> just 'to create a presentation' Must at least have a second part that is related to the trip <b>NOT</b> 'create presentation' needs qualification</td> </tr> <tr> <td>Animation Software</td> <td>Create an advert to promote the trip Create an animated banner to go on website</td> </tr> <tr> <td>Video editing software</td> <td>To record parts of the trip and edit the video</td> </tr> <tr> <td>Audio / music software</td> <td>To record a podcast to advertise the trip For use in the presentation to advertise the trip</td> </tr> <tr> <td>Word processing software</td> <td>To create a letter informing parents of the trip To create an itinerary of the trip</td> </tr> <tr> <td>Desktop Publishing/DTP Software</td> <td>Posters to advertise the trip Leaflets for parents to inform them of the trip Fliers, programmes</td> </tr> <tr> <td>Photo editing software</td> <td>To edit photos from previous trips to advertise Creating logos</td> </tr> </table>	Database software	To record students going on the trip To record equipment needed for the trip To record staff members accompanying students <b>NOT</b> just 'store data' <b>NOT</b> info <b>NOT</b> keep data safe	Spreadsheet software	To calculate trip payments Profit/Loss Budget for the trip Trip sponsor money <b>NOT</b> just "accounts"	Presentation software/ slideshow / multimedia software	To create a presentation to play in assembly advertising the trip <b>NOT</b> just 'to advertise' - too general. <b>NOT</b> just 'to show advertising' <b>NOT</b> just 'to create a presentation' Must at least have a second part that is related to the trip <b>NOT</b> 'create presentation' needs qualification	Animation Software	Create an advert to promote the trip Create an animated banner to go on website	Video editing software	To record parts of the trip and edit the video	Audio / music software	To record a podcast to advertise the trip For use in the presentation to advertise the trip	Word processing software	To create a letter informing parents of the trip To create an itinerary of the trip	Desktop Publishing/DTP Software	Posters to advertise the trip Leaflets for parents to inform them of the trip Fliers, programmes	Photo editing software	To edit photos from previous trips to advertise Creating logos	12
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	Web authoring/ Website creation	Create / maintain website to advertise the trip <b>NOT</b> just 'to advertise' - too general. <b>NOT</b> just 'to show advertising' <b>NOT</b> just 'to create a website' Must at least have a second part that is related to the trip or website e.g. advertise the trip with a website would be okay <b>NOT</b> 'create website' needs qualification		
	<b>NOT</b> Email software The use must have a valid example of use. <b>NOT</b> contacting the hotel and enquiring about room bookings No brand names No repeated uses			
	<b>TOTAL</b>		<b>80</b>	