GCSE MARKING SCHEME

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

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Max mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>One mark for each for each of the following up to a maximum of five</td>
<td>5</td>
</tr>
</tbody>
</table>
| 2 | Data: 31
Condone: 31 in a range (e.g. 16, 19, 25, 31)
Information: 31°C
Condone: 31°C in a range (e.g. 16°C, 19°C, 25°C, 31°C)
Example must link to question (data must contain 31, information must contain 31°C or similar (e.g. 31 degrees Celsius)
Do NOT accept numbers above 31 | 2 |
| 3(a) | Messages sent between users/computers/devices (1) across network / via Internet (1) | 2 |
| 3(b) | One mark for one of the following
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
Any reasonable answer that includes a concrete example. MUST have a context
NOT just ‘send a message’ / ‘send a letter’ / not just ‘send an attachment’
NOT just send a file | 1 |
| 3(c) | One mark for one of the following
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 pick it up anytime / 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
NOT ‘instantly’ by itself
NOT “It’s faster” – must be qualified
NOT Low cost / Cuts down on mail costs – stamps/envelopes
NOT send 24/7 | 1 |
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (d)(i)</td>
<td>Phishing</td>
<td>1</td>
</tr>
<tr>
<td>3(d)(ii)</td>
<td>One mark for each of the following up to a maximum of two</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Email is not from an official world bank address/no personal email so no sender can be identified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No name in the To: box / Dear Sir (not personal)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spelling mistakes / capital letter errors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unprofessional layout / formatting errors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contraction (e.g. 'u') / colloquialism 'no worries'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asking for bank details / requesting username and password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Out of date – 2015</td>
<td></td>
</tr>
<tr>
<td>3(d)(iii)</td>
<td>One mark for one of the following</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Set up a spam filter / privacy settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ignore it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Block it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don't click on any link</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don't reply/give account details</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Report it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inform your bank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delete it</td>
<td></td>
</tr>
<tr>
<td>4(a)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4(b)</td>
<td>One mark for each of the following</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Owner ID (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To uniquely identify the owner / unique identifier / uniquely identifies each record (1)</td>
<td></td>
</tr>
<tr>
<td>4(c)</td>
<td>85</td>
<td>1</td>
</tr>
<tr>
<td>4(d)</td>
<td>1 – Drop down list</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>If more than one box ticked – no marks</td>
<td></td>
</tr>
<tr>
<td>4(e)</td>
<td>One mark for each correct field and search criteria x2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>One mark if both fields are correct but search criteria incorrect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>One mark if both search criteria are correct but fields are incorrect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Search criteria must be spelt correctly</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Field</strong></td>
<td><strong>Logical Operator</strong></td>
</tr>
<tr>
<td>Pet Type</td>
<td></td>
<td>=</td>
</tr>
<tr>
<td>Shampoo?</td>
<td></td>
<td>=</td>
</tr>
<tr>
<td>4(f)</td>
<td>[Date of Last Visit]+30</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>field name + 30 is needed, <strong>CONDONE</strong> syntax not required e.g. will accept 30 days</td>
<td></td>
</tr>
<tr>
<td>5(a)</td>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>=SUM(B4:B13)</td>
<td></td>
</tr>
<tr>
<td>5(b)</td>
<td>E14-E15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SUM(E4:E13)-E15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>E4+E5+E6+E7+E8+E9+E10+E11+E12+E13-E15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SUM(E4:E13)*0.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(E4+E5+E6+E7+E8+E9+E10+E11+E12+E13)*0.85 - must have brackets</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>5(c)</strong></td>
<td>MIN</td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>
| **5(d)** | =B14*0.15  
= (B14/100)*15  
= B14*15%  
Accept =SUM(B4:B13) or =B4+B5+B6+B7+B8+B9+B10+B11+B12+B13 in place of B14 above.  
Accept any working answer | **1** |
| **5(e)** | =IF(E16<=$B$1,"In Budget","Over Budget")  
Or  
=IF(E16>$B$1,"Over Budget","In Budget")  
Must have " " around In Budget/ Over Budget | **1** |
| **5(f)** | One mark for each of the following up to a maximum of two  
Accurate/correct calculations  
Automatic re-calculation  
Save formula and data  
Draw graphs  
Replication  
Use macros to navigate quickly  
Faster to sort into order  
Accept any reasonable advantage but not just a use  
NOT 'can do sums'  
NOT 'faster'  
NOT 'easier'  
NOT What-if scenarios  
NOT just Automatic calculations | **2** |
| **6** | Any method and matching advantage and disadvantage (x2) from:  
**Smart Cards / Swipe cards / Key Cards**  
**Advantages**  
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  
**Disadvantages**  
Can be lost easily  
Can be used by pupil's friends to swipe them in / truancy  
**OMR**  
Mark made on sheet about whether absent or present  
**Advantages**  
Cost can be lower than other methods of registration  
**Disadvantages**  
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 | **6** |
Online Registration / Admin Software on a PC / MIS

Advantages
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

Disadvantages
Takes up teaching time / staff time due to register calling and entering codes
Staff training required

Others include RFID tags or radio systems

NOT spreadsheet / database to register pupils

One mark for any of the general advantages and disadvantages

General advantages applying to all systems
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

General Disadvantages
Reliance on system

NO repeated advantages and disadvantages

7(a) One mark for each of the following up to a maximum of three

- Heat / temperature sensor/thermistor
- Light sensor
- Sunshine hours / intensity / pyranometer
- Humidity / Moisture / Hygroscope
- Rainfall sensor
- Wind speed / Wind direction / Anemometer
- pH sensor
- Atmospheric pressure sensor / Air pressure (Not just pressure sensor on its own) / barometer

7(b) 1 2 5

7(c) One mark for each of the following up to a maximum of three:

- 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

DO NOT ACCEPT ONE WORD ANSWERS

One mark for any one disadvantage from the following:

- 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
8 One mark for each of the following up to a maximum of 3:

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

Any reasonable answer

3

9 Needs both the problem and cause X 3 No marks for simply naming health risk, must be a description
Matching Prevention X 3 (Preventions must be different)

NOT obesity

<table>
<thead>
<tr>
<th>Health Risk</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<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 (NOT 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>
</tbody>
</table>

3x2
| 10(a) | Only one mark for any one of the following  
Search Box / Bar (to enter key word searches)  
Hotspots  
Hyperlinks  
Drop down menus  
Using the menus to navigate to the song/ album  
Scanning QR codes | 1 |
| 10(b) | One mark for each of the following up to a maximum of 3  
A fast download speed can mean music is received almost instantly  
Can select which tracks to download so cheaper than downloading whole album  
Can access / get files 24/7  
Can read online reviews before purchasing  
Preview the song before buying  
Use price comparison websites to save money  
Saves time as do not have to go to shops to buy  
Saves money / travel costs as do not have to go to shops to buy  
Saves money as family sharing an account  
Increased access to a wider range e.g. the number of websites or variety of music styles  
Empowers the disabled  
Recommendations on what music to listen to  

**NOT** can be used on multiple devices | 3 |
| 10(c) | One mark for a disadvantage from:  
Illegal downloads harm the music and film industries  
Viruses can be introduced  
Security issues online e.g. hacking, phishing / could take credit card details  
File content may be different from stated name  
Breaking the Copyright Act  
May lead to music shop closure  

**No marks for hardware problems** | 1 |
Any **two** uses (2) and advantages and disadvantages (6)
At least two advantages and two disadvantages for maximum marks.
Advantages and disadvantages **must be different**.

**Social Networking**

**Uses**
- Upload photos
- Livestreaming of events
- Share videos/photos
- Feedback on posts
- Write posts
- Change personal information / privacy settings
- Join groups
- Create events
- Follow celebrities
- Chat / send instant messages
- Search for people / companies / events
- Use of games
- Buying / Selling of items

**Any reasonable usage not covered by the list above**

**Advantages**
- Can keep in touch with friends all over the world
- Can let large groups know about events quickly (e.g. birth of a child) which takes less time than contacting each one individually
- Can make new friends based on interest groups
- Can vote on products/services to let others know your opinion
- Can see others opinions on products/services to help with choice
- Can save money on phone calls by using chat
- Using video chat you can see the person as well as hear them
- Always someone available to talk to
- Generate income

**Disadvantages**
- Paedophiles / Stalkers / groomers may gain access to the images
- Employers can view your comments and could lead to a dismissal
- Sharing too much information
- Burglars can see Holiday status updates
- Identity theft
- You can be identified from your images
- Exercising undue influence / radicalisation
- Advertising
- Cyberbullying / Trolling
- Inappropriate images / videos
- Fake news / unreliable sources
- Fake profiles
<table>
<thead>
<tr>
<th>9-12 marks</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-8 marks</td>
<td>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.</td>
</tr>
<tr>
<td>1-4 marks</td>
<td>Candidates give at least one software and example of use. The response lacks clarity and there are significant errors in spelling, punctuation and grammar.</td>
</tr>
<tr>
<td>0 marks</td>
<td>No valid response.</td>
</tr>
</tbody>
</table>

**Guidance**

**One mark for each software (Max 4)**  
**One mark for each use for each software type (x2), up to a maximum of two for each software type (Max 4x2)**  

Any reasonable usage for software in the context of a school trip:

<table>
<thead>
<tr>
<th>Software Type</th>
<th>Reason for Use</th>
</tr>
</thead>
</table>
| Database software | To record students going on the trip  
To record equipment needed for the trip  
To record staff members accompanying students  
**NOT** just ‘store data’  
**NOT** info  
**NOT** keep data safe |
| Spreadsheet software | To calculate trip payments  
Profit/Loss  
Budget for the trip  
Trip sponsor money  
**NOT** just “accounts” |
| Presentation software/ slideshow / multimedia software | To create a presentation to play in assembly  
advertising the trip  
**NOT** just ‘to advertise’ - too general.  
**NOT** just ‘to show advertising’  
**NOT** just ‘to create a presentation’  
Must at least have a second part that is related to the trip  
**NOT** ‘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 |
| Web authoring/ Website creation | Create / maintain website to advertise the trip  
                                  | NOT just ‘to advertise’ - too general.  
                                  | NOT just ‘to show advertising’  
                                  | NOT 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  
                                  | NOT ‘create website’ needs qualification  
                                  |
|--------------------------------|----------------------------------------------------------|
| NOT Email software            | The use must have a valid example of use.  
                                  | NOT contacting the hotel and enquiring about room bookings  
                                  | No brand names  
                                  | No repeated uses  
                                  |
| TOTAL                         | 80                                                      |